The Builder.

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Some Cities of Modern Italy.—Florence.

DURING the latter half of the nineteenth century Italy has been putting her house in order, and the first of her cities to exhibit the changed order of both public and private life was Florence. To a visitor returning to the country after a lapse of twenty years, the difference between then and now is absolutely astonishing.

In nothing is the change from old to new Italy more striking than in the rebuilt cities, new ports, and cultivation of monumental art. The last years of the century have left a mark on the land, which seems of a sufficiently substantial character to endure for many a century to come. The rural districts have not been much affected, the railways have not much developed during the past few years, and the industries of the country, except in the far north, are still of very little importance. Italy is essentially an agricultural country, and as such must always remain a comparatively poor one. Agriculture forms a sound security for a moderate income, but it is not generally the source of great fortunes; and, in addition to agriculture, Italy only possesses the somewhat second-rate riches of her marble quarries. Under these circumstances, it is sufficiently surprising to find such evidences throughout the country of social and commercial enterprise as are these rebuilt cities, splendid gardens, restored churches, and monuments.

Very few Northern cities of Europe have been reconstructed to the same extent as those of the Peninsula, and within so short a period as a quarter of a century. The first city to be modernised, more than fifty years ago, was the then capital of the Grand Duchy of Tuscany. Even in the days of the Grand Dukes, the influences of the nineteenth century were at work in this favoured corner of Italy. Whilst the rest of the country was devastated by the struggles between foreign armies in the north, or passively enduring the deplorable survival of Papal and Spanish government in the south, Florence was endeavouring to take its place amongst modern European centres. The first railway in Italy was constructed between Florence and Leghorn about the year 1840 by the enterprise of the bankers Fenzi, a firm which has unfortunately come to irretrievable ruin during the last few years, owing partly to over-speculation in the new Chianti Railway.

After the abdication of the last Grand Duke, and the temporary installation of the Court and capital of Victor Emmanuel in 1860, the northern walls of the city were pulled down, and new roads and suburbs were formed, which have only of late years been utilised. The greatest change, however, has taken place during the nineties. The sweeping away of all the miserable hovels and slums of the old centre, which twenty years ago formed the refuge for the thieves and beggars of the district, has destroyed much that was singularly picturesque, but at the same time it must be remembered that the artists who bemoaned its destruction were the only persons who did not benefit by the change. Some few interesting old buildings, in a deplorable state of decay and degradation, were at the same time destroyed, notably one of two of the ancient Guild Halls or chapels of the "Arti;" otherwise nothing of architectural interest or importance seems to have been done away with. In place of this old centre of the city a completely new series of streets, palaces, and public buildings has been erected, and is now almost complete. It is a transformation. Unlike the alterations of Rome, the new quarters of Florence present none of the evidences of over-speculation and extravagance which give the Eternal City almost a ridiculous appearance.

But, unfortunately, the new centre of Florence can hardly be considered a triumph of civic architecture. The central feature, the grand piazza, has three of its sides formed by mediocre buildings of no pretension, but the fourth side is occupied by an immense monumental edifice evidently designed by some one totally ignorant of architecture as a fine art. This deplorable pile of ill-arranged details forms a sort of background to one of the usual commonplace statues of the "Re Galantuomo" in the centre of the piazza. In the centre of this building, forming its chief feature, is an immense archway, the object of which is a problem; it serves at least as the entrance to an unimportant street, but it may at the same time have some reference to the unfortunate equestrian statue which has the appearance of issuing from beneath it. Altogether this central piazza is a complete fiasco. The monumental building referred to was originally intended to house the great libraries of Florence, but the scheme appears to have been abandoned. The ground story consists of an arcaded portico, which stretches across the piazza, and is intended to continue into the streets on either side in a straight line, the ends being invisible. Such a conception naturally detracts from the dignity of the piazza as a whole, and makes it subordinate to the mere side streets which lead into it; added to which, the portico being more than half hidden in the streets, and without any particular relation to the piazza, has a most grotesque appearance. The great archway of the piazza, about 50 ft. high, is crowned with one of those hopeless groups of allegorical statuary so characteristic of the nineteenth century; its only true interpretation being misdirected intention and misspent labour. The inquisitive visitor who passes into the side street under this arch may thence obtain a view of the unfinished backs of the allegories, and of poor Victor Emmanuel mounted on a phenomenal charger, also seen from behind. The result of this central architectural effort of modern Florence is singularly unfortunate, more especially considering the scale of the building and the lost opportunities.

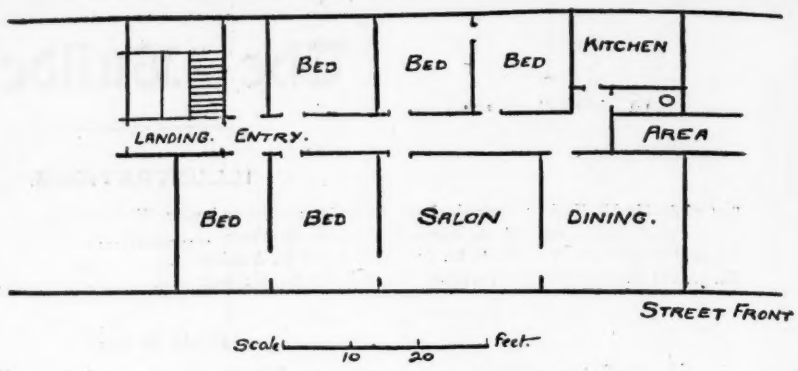
The "sventramento," or turning inside out of the old city, has led to the opening-up of many of the old palace fronts, formerly almost invisible in the narrow back streets. Some interesting old fifteenth-century houses have been brought to light in the process of demolition near the Palazzo Strozzi; they have been very cleverly restored, but almost

too much so—that is to say, too much with the intention of deceiving the spectator, and it is difficult to detect how much is really old about them. All the little churches and chapels, which once existed in considerable numbers in the old centre, have disappeared; but they were of no architectural importance or character.

Independently of the centre, the great period of remodelling and reorganising the city was about 1860-1870; since then very little has been done in the suburbs and new quarters there formed, beyond a certain amount of filling up. The mediæval walls to the north were pulled down, and planted boulevards took their place. But the old gates, a very interesting series, with some fine frescoes under their arches, and their upper stories remodelled for artillery in the seventeenth century, were left standing. The walls on the south of the city are still intact, or nearly so; thus the old landmarks are fairly well preserved.

Wherever the city has extended, the new buildings, as a general rule, are only two stories high, and evidently built by small proprietors. The style of modern buildings in Florence is singularly uniform, and of the unobtrusive pseudo-classic common all over Italy. The Italians fortunately never attempt to revive, as a general rule, the unsatisfactory exotic "Gothic," which, for a short time, intervened between the Romanesque and Renaissance styles of mediæval Italy. Any attempts of the kind which have been made during the last fifty years are quite beneath criticism. The architectural details are carved in the beautiful grey sandstone of the district called "Pietra Serena," and the rubble walls are covered with buff or grey plaster. The result, although somewhat monotonous, is always pleasing, especially in that clean and brilliant atmosphere, and gives a restful impression to the visitor from the north, fatigued by the jumble of styles and materials usually found in a French or German town. The luxuriant gardens of Florence, and the boulevards, no longer the rows of "sticks" which Ouida once railed against, minister very much to this pleasing result.

The northern mediæval walls of the city have disappeared, but it is curious that the seventeenth and eighteenth century fortifications are still well preserved. The great pentagonal fortress of St. John on the north, and the still stronger fort of St. George on the south of the city, remind us of the time when Florence was the capital of an independent State, with its sovereign, its army, and even a small navy under the somewhat out-of-date administration of a naval order of knighthood. But all that these old fortresses represent passed away into limbo forty years ago, and their moats, long since filled up, now form charming promenades lined with well-grown trees. Leading up from the town to the fortress of St. George is one of the finest ornamental roads in existence, laid out as a public park and promenade. Perhaps its chief charm is that instead of being a mere railed-off public garden it constitutes a succession of delightful walks, and at the same time an ordinary high road, with unrivalled views over the city and the country. This is the Viale dei Colli, formed about 1870. It possesses one of the most interesting monuments of ancient Florence, the church and very ancient convent (Benedictine) of S. Miniato, restored, alas! in the sixties, when the "restoration



FLORENTINE TYPE OF HOUSE - PLAN.

mania" was beginning, and when atrocities of that kind were perpetrated which have hardly been equalled since. The interior was given over to the "scagliola" artists, who covered the beautiful old green marble columns of the nave, built in courses, with their abominable compound, in order to make them look like monoliths of Cipollino. The original columns were of course chipped over to form a key for the "scag," the rest of the building was treated in the same taste, and consequently it is now nothing more than an uninteresting ruin, which can never be repaired.

The suburban villas, for which Florence has always been celebrated, have a special character as far as their outsides are concerned, their grey or buff walls relieved with a simple style of Classic architecture are always pleasing, but their plans are singularly without special typical features. This may possibly be due to the very piecemeal way in which they are generally built. Many of the larger villas contain, in addition to the grand reception rooms (which in the older examples are built round a courtyard), a small theatre fitted with a stage, proscenium, &c. In the last and present centuries the custom seems to have been to abandon the courtyard plan, and follow the planning of town houses, devoting the first floor or "piano nobile" to the reception-rooms, and sacrificing those used for domestic purposes. The Italian villa is never complete without its small domestic chapel, sometimes built out in the surrounding grounds.

Modern villas are closely copied from the ancient; the habits of the people have changed but little, and the methods of construction not at all. A Swedish gentleman has built a house on a prominent part of the Viale dei Colli, and, thinking to do something original, has had the plan of an ordinary London suburban house copied. But the result is very far from what he intended; the walls are of such a thickness, the floors and vaulted passages are so substantial, that the plan has become sufficiently modified to have lost all resemblance to the original. Perhaps the most important modification in this particular case is due to the inevitable heavy green shutters to all the windows, which effectually give the building a southern character. English, Russians, and other foreigners have built scores of imposing villas around Florence, but in no instance has any foreign type of building been actually introduced. The town houses of Florence, built during the past two decades, which take the place of the old two-storied private houses of former times, are always designed with a very palatial but unpretentious exterior, and divided up internally into flats. Amongst the first of this style of building to be erected were certain houses on the north side of the city, built by a company called the "Società Anglo-Italiana," many of the shareholders of which were English. But, as already stated, the new houses of Florence are built by private proprietors, almost without exception. As to plan, they are invariable; the ground floor is occupied by shops and offices, in the centre of which is the entrance leading to upper stories, always under the control of a concierge or porter. The flats are on a plan of a long passage lighted at the end by an area shaft, which is always very ineffectual for that purpose. The rooms are arranged on either side of the passage. The greatest defect in Italian houses is the extreme obscurity of this central passage, and of the entrances into the flats; in a country with less sunshine it would be quite intolerable. In the rear of the house is a small garden, or else the space is occupied by store-rooms and workshops. Ordinary middle-class flats let at an average rate of 100 francs per annum per room, and the rental is the same on all the floors, and of course includes all expenses and taxes connected with the maintenance of the buildings—drainage, concierge, &c. The annual return on the proprietor's investment amounts to only about 5 per cent., but then it must be remembered these houses are never built on leases; the leasehold system seems absolutely unknown in Italy, and to its absence the modern buildings of Italy owe their very substantial and monumental character.

Florentine houses are not fitted with the luxurious appliances now common in Rome; hardly one of the large modern buildings, except the hotels, is fitted with a lift, and electrical installations of any kind are almost unknown.

In the construction of a Tuscan house, the walls are generally a metre thick, of stone rubble, and the arches are often turned in brick. There are sometimes courses of brick at intervals in the height, reminding one of the old Roman system. The floors are constructed in the old way of heavy wood beams supporting short joists, which are spaced in such a way as to take a covering of thin bricks about 12 in. by 6 in. by 1½ in., the bricks resting their ends on the joists. There are no flooring boards, but over the first layer of bricks another is laid, breaking joint with those beneath, with a thin bed of sand or mortar between. The top layer of bricks forms the floor of the room, and is painted with a specially strong preparation, and varnished. These floors are, of course, heavy, but sound-proof, perfectly fireproof, and delightfully clean and cool in summer. They also appear to be very durable. In the recent

Via Strozzi
[Old & New Florence.]

A CORNER OF PIAZZA S GALLO FLORENCE

FLORENCE
NEW ARCHBISHOP'S HOUSE

buildings of the centre of Florence, a good deal of iron and hollow brick construction has been introduced, the old system still prevails, especially in the suburbs. In the construction of roofs the same mode of laying bricks on the rafters is adopted, but the old-fashioned ridge and furrow tiles take the place of the flooring bricks. With such roofs the upper stories are, of course, as cool in summer and warm in winter as any other part of the house. In the Middle Ages it was the custom to make the lower layer of tiles with some relief decoration on their under sides, which appears between the joists or rafters on which they rest. Some of the old examples of a simple fleur-de-lis, a star, or similar device have a very rich and pleasing effect. The old tiles are somewhat larger than those in use at the present day. The well-known "French" tiles are largely made in Tuscany, they are of course laid on battens or boarding, instead of the bricks, and used chiefly for sheds, stations, and roofs of wide span where lightness of construction is essential. They are also largely exported to the Levant and Egypt.

With the exception of the important edifice in the central piazza of the city, which does not appear to bear any particular name or signification, and which it has been necessary to criticise somewhat severely, the new buildings of Florence do not call for remark. The quiet, inoffensive modern façades harmonise with the old Renaissance palaces, and their very tameness and want of originality serve to heighten the beauty of the old work. One recent architectural effort should, however, be referred to, this is the new visitors' entrance to the Pitti gallery. This splendid addition to the palace replaces a miserable little back stairs, by which the public used to be admitted to the upper floor, constituting the picture gallery. It consists of a fine entrance-hall, resembling the celebrated sacristy of Michelangelo at St. Lorenzo, with doors into the Boboli gardens, and a spacious staircase leading up into an upper hall or vestibule to the picture gallery, about 60 ft. by 25 ft. and 30 ft. high. The whole is executed in elaborately-carved first Renaissance style, with coloured coats of arms, and Della Robbia roundels relieving the cool grey of the "pietra serèna." The wood ceilings of both halls, and under the stone stairs, are of highly-carved panels filled with rosettes, and painted a dark reddish yellow. The work is said to have cost more than 12,000*l.* (300,000 francs). It is intended to commemorate a recent marriage in the Italian Royal family. The designer is the architect Del Moro, who must be praised for a very successful adaptation of a specially Florentine type of work.

A note on the restoration of ancient monuments during the last decade may be added. Only one or two of the ancient churches have been touched in any spirit of conservation. Santa Trinita, near the Arno, has been restored internally, but in a rather ridiculous way. The church, as we now see it, was built in the thirteenth century on the site of an older church, some walls of which were used up in the construction of the later building. The modern restorers have not only restored the thirteenth century work but also all such fragments of the older building as had been covered up by the thirteenth century builders. The ancient crypt having been discovered, has been opened up into the present nave in a very clumsy manner, and elsewhere the building presents the most singular effect of patchwork possible. Such restoration, when it interferes with the general design of a mediæval building, becomes really absurd. The numerous frescoes and ornaments of the church have been cleaned and replaced in a very creditable manner, but the effect of the interior is completely ruined by the insertion of a modern stained-glass window, facing the entrance, of a style which is now fortunately confined to Italy. The sort of thing which passes for stained glass in Italy at the present day is really quite astonishing. Not in the darkest days of the "Gothic" revival would such stuff have been possible in northern latitudes. Only in Milan, due to the efforts of the late Pompeo Bertini (son of the author of the terrible eastern windows of Milan Cathedral), does there ever seem to have been an attempt made to study and revive the splendid old school of Italian glass work, and the praiseworthy attempt has met with little success. Elsewhere in Florence the stained-glass "artist" has been at work, and has been allowed to ruin many of the old windows in Santa Croce, and in the Cathedral. In the latter building the central window of the north transept had actually been removed and a preposterous copy inserted in its place! This barbarism was perpetrated about ten years ago. The contrast between the old windows, of which the cathedral possesses a remarkable series, and this atrocious parody in flat toned glass with feeble modern drawing, would be perfectly ridiculous if it were not so distressing to the eye. At S. Maria Novella some very remarkable modern windows were put up about thirty years ago, but it is doubtful if they are stained glass in the ordinary acceptation of that term, the wretched modern drawing and shading has in most cases quite disappeared, leaving the flat-toned fragments of glass quite bare.

The church of S. Maria Novella may possibly be taken in hand for restoration purposes within the next few years; it is at present in a very neglected condition, and if it is repaired in the spirit which has lately been manifested in Italy, and the wretched Gothic additions and whitewash of thirty years ago are removed, the interior will be very much improved.

Another church of great historical and artistic interest has recently been restored to some extent in a very conservative spirit. This is the curious building known as Or San Michele, originally built for an open corn market, with two stories of offices for a civic guild above it. The market was decorated with the wonderful, but very bizarre, tabernacle attributed to the design of Orcagna, a mass of elaborate-moulded marble and tabernacle work of the usual feeble Italian "Gothic" style, with party-coloured glass mosaics (fragments of coloured glass of considerable size inlaid in the marble panels) on a tinfoil back. The most pleasing part of this monument is the elaborate bronze and marble screen surrounding it, evidently of a later date. The use of the building as a market seems to have been discontinued shortly after its erection; and the elaborate side arcades, in the style of the Pisan Campo Santo, were clumsily filled up

with walls, leaving the traceried upper portions to serve as windows for the improvised church. These upper portions were filled at the same time with splendid rich-toned glass, most of which still remains. The filling-in walls have thirteenth-century paintings on them, and now that they are freed from whitewash, as well as the vaults, arches, and pilasters of the building, but without the smallest attempt at restoration of the frescoes, the effect of the interior is very interesting and satisfactory. One of the upper chambers of this building is now appropriately used as a lecture hall for the study of Dante, and named after the poet. Altogether this is one of the most interesting ancient buildings of Florence.

About forty years ago the west front of the cathedral was designed by De Fabris, who has since died; but although his is the chief monumental effort of the Florentines in the present century, as architecture it must be considered beneath criticism. It is a mere piling up of poorly-copied mediæval details, mixed with a quantity of modern realistic statuary of a singularly uninteresting character. The whole front, from the cross on its gable down to the row of coats-of-arms of benefactors to the work (which appear to have been merely copied from visiting cards) at its base, is absolutely wanting in any sympathetic or artistic feeling. The bronze doors at present being added to its other embellishments are, if possible, still more unsatisfactory than the mass of mechanically over-elaborated detail which they are supposed to complete. The tympana of the three doorways are filled in with mosaic pictures, supposed to give the same effect as oil pictures! What their effect a hundred years hence may be is not thought of. The whole front is, in fact, a mere veneer of marble, in some places very thin, and already there are signs of its instability. Another and rather older example of these veneer marble fronts is the one which was stuck on to the grand old church of Santa Croce about the year 1850. It was put up chiefly at the expense of an Englishman named Sloane, who made a considerable fortune at that time in the Volterra borax industry; but this also is coming to grief with the weather.

An account of the modern aspect of Florence would be incomplete without a reference to the rather imposing churches of the foreign communities forming so important a part of the population. The Jewish Synagogue, built fifteen years ago, is a large domical building in the Alhambra style. It has a pleasing semi-Oriental effect, and, like all Oriental buildings, has the advantage of belonging to a style which is the same yesterday, to-day, and for ever, and therefore defies criticism. The English church is a curious effort by Mr. G. F. Bodley to transform a large, square, meeting-house sort of building, dating from about the year 1840, into one of his characteristic mediæval revivals. To effect this he has taken down the plaster ceiling, removed the gallery, and rearranged the windows without disturbing the old roof. He has then erected within this shed-like building, which is of considerable size, two nave arcades supported on clustered columns of green marble (verde di Prato), forming three aisles, covered by wooden ceilings, but having no connexion with the old roof above them. Such a treatment, although producing the desired picturesqueness of effect internally, may be open to the criticism of being somewhat in the nature of "sham." As far as the construction goes, there is neither use nor meaning in these arcades, which merely support a thin-boarded ceiling, and are intended to suggest a roof and method of construction which have no existence. It is needless to say the doors and windows, &c., are the usually careful adaptations of mediæval details for which Mr. Bodley is so famous. The interior of the church is highly decorated with stencil patterns and gilding, but the colours chosen are far from pleasing; a disagreeable brick red on the greater part of the walls offends the eye, and tends to diminish the apparent size of the building. The most satisfactory part of the decoration is the wood ceiling—a richly-treated scheme of gold and blue in square panels. Over the altar a large reredos of Mr. Bodley's usual style of design fills up the wall space instead of a window. Externally this church has a very deplorable appearance. The huge old roof which covers the building has been left in its original depressing ugliness, and reminds the spectator of a workshop or factory. The new tracery in the windows is the only architectural feature to suggest the use of the building, and that looks rather out of character with its surroundings.

The new Russian church at present rising on the north side of the city promises to be the most imposing of all the modern ecclesiastical buildings in Florence. The site chosen is one of the most conspicuous from the railway, and the new five-domed building will be the first to attract the attention of a visitor from either the north or the south. It is being built of elaborately-worked stone, and it is expected to cost at least the equivalent of 40,000*l*. With its ornamental exterior, its gilded domes and crosses, conspicuous from all the surrounding country, it will form a marked contrast with the unassuming English church.

NOTES.

The Safety of the National Gallery. IT is to be hoped that the incident of a fire breaking out in the houses immediately contiguous to the National Gallery (an event the possibility of which has been foreseen and commented on for years) will at length arouse the Government to do something to place our invaluable national art collection out of the reach of such a danger. After part of the National Gallery and its contents have been destroyed, it will be but a poor consolation to be able to say to those who have official charge of the safety of the Gallery—"We told you so." That will be quite true, but it will not bring back the vanished pictures.

Architects and Borough Surveyors. ON another page we publish a letter from Mr. Angel in regard to the resolutions to be moved at the Friday meeting (22nd inst.) of the Architectural Congress, on the subject of the employment of Municipal Surveyors in works of municipal architecture. We print the letter because it is expressed with moderation (we have received one or two very violent epistles on the subject) and it probably represents the views of some others besides the writer; but mainly in order to point out that it implies, we think, a good deal of misconception as to the intent and meaning of the resolutions complained of. We are quite sure that there was no intention, as Mr. Angel seems to think, to deprecate the carrying-out of mere ordinary works of sanitation, such as refuse-destructors or public conveniences, by the Borough Surveyor; what is aimed at is to discountenance the carrying-out of architectural work by an official surveyor. Some people seem to imagine that the Institute is taking a very unusual and ungracious step in bringing forward such a resolution; but they will find, if they inquire into the matter, that the American Institute of Architects have been taking concerted action on this subject for some time past—and with success, for they have brought about a considerable reform in the direction of taking municipal buildings out of the hands of the official surveyor. The matter is of importance in an architectural sense. Official architecture almost invariably bears its stamp upon it; we see this in the case of the post-office buildings, which we find now in every large town, designed on the commonplace office pattern, instead of being works of architectural interest, as they might have been. We confess that we rather regret the printing of the third resolution, cited by Mr. Angel, because it is sure to be misunderstood; but we believe that those who attend the meeting will find that the object of putting forward that resolution was not exactly what they may have supposed.

Temporary Architecture. IN the last issue of *La Construction Moderne* M. Planat summarises some recent French criticism in regard to structures of this and the last Paris exhibition. The *Débats* seems to have taken up the subject, and M. Planat quotes it as referring to the Eiffel Tower as "a curious feature of the 1889 Exhibition, which might have been forgiven if it had been demolished in 1890;" an opinion in which we coincide in all except the forgiveness. M. Planat proceeds to instance the Galerie des Machines as a structure creditable to both the engineers and architects, but points out what every architect who has traversed it must have felt, its total deficiency in scale; no one realises its size except after trying to see everything that is in it. Then came M. Formigé, with his combinations of iron and terra-cotta, which appeared to us an ideal kind of structure for temporary buildings with a certain architectural character. His buildings were generally admired, but the determination to take them down was, it is now stated, partly caused by the fact that they would have required strengthening behind the iron and terra-cotta skin. For permanent buildings no doubt they would, but we think they would have stood over the 1900 Exhibition. But now it appears that this advance in the architectural treatment of metal has given the French architects a fright, and they are retracing their steps from the position of the 1889 Exhibition: "le mot d'ordre a été—*cachez le fer*"; hide the iron framework. This explains, certainly, the alteration in style in the present Exhibition buildings, and the amount of surface modelling and plaster sculpture everywhere. The result is more picturesque—or sculpturesque—to the eye, but the real result is to give the buildings a much less architectural and monu-

mental effect than those of the 1889 Exhibition. They are palpably shams, whereas M. Formigé's architecture was genuine as far as it went.

Flats.

Two cases decided in the Chancery Division, just before the Court rose last week for the Whitsuntide vacation, are important in these days when flats are becoming so common. In the one case a resident in what was at one time called the St. Ermins Mansions, Westminster, but is now the St. Ermins Hotel, succeeded because of a breach of covenant. Broadly speaking, the agreement with the landlord was of such a nature as to make it illegal, so far as the agreement was concerned, to turn a block of private flats into a hotel. The tension should be carefully noted because many persons who may be willing to live in a quiet residential block by no means wish to reside in a hotel. In the other case a resident in a block in another part of London was disturbed to a serious extent by the transformation of a part of the building into a restaurant, was annoyed by the smell of cooking, and roasted by the kitchen flue. The difficulty of obtaining domestic servants has a tendency to introduce the common dining-room into flats. This case shows that this must be done with a good deal of care, otherwise tenants who are substantially disturbed by the change have legal remedies against those who cause it.

High-Pressure Warming Apparatus.

THE Board of Trade Report on another explosion of a high-pressure warming apparatus has just been issued, and brings again into prominence the danger of warming-apparatus without safety-valves. The explosion occurred at the works of the Great Northern (Ireland) Railway Company at Dundalk, in February last, and was due to frost. The fire was raked out of the boiler at noon on Saturday, February 10; severe frost was experienced on that day and the next, and the explosion took place soon after the fire was started on the Monday. The boiler-attendant was so seriously scalded that he died in about fourteen hours. The apparatus was of the usual high-pressure type, the pipes having an internal diameter of $\frac{7}{8}$ in., and the boiler being formed with coils of pipes encased with brickwork. Some of the circulation pipes were blocked with ice, and the result was that one of the pipes in the boiler burst and the attendant was killed. It has now been arranged to keep the fire in the boiler "burning continuously in wintry weather." It is strange how little effect these inquiries into explosions of warming apparatus appear to have; surely persons responsible for the design and working of such apparatus should by this time have learned to exercise a reasonable amount of forethought.

Electric Waves.

IN a letter to the *Electrician* last week Dr. Fleming announces that he has invented a piece of apparatus by means of which electric waves can be easily produced and detected. As the waves it produces are of the same wave length and are similar to those used in wireless telegraphy, his invention is of practical value, as well as of the greatest scientific interest. He has found that liquids like paraffin oil or turpentine are exceedingly transparent to electric waves, whilst liquids like water of high dielectric constant are practically opaque. The waves he employs pass readily through a thick deal board, a slab of ebonite, a dozen thicknesses of dry wash-leather, &c., whilst they are completely absorbed by a couple of wet cloths or any substance which is very moist. He has proved that the human hand and body are very opaque to these rays. So opaque are they that an electric ray can be reflected by the hand in the same way that a beam of light is reflected by a polished surface. Although water is very opaque, dry ice is very transparent. One of his most striking experiments is to refract an electric beam by a prism of dry ice. The beam is bent towards the thick end of the prism, just as a ray of light is bent, but the deviation is much greater. This is a more interesting result than Dr. Hertz obtained with his prism of pitch, for we can compare directly the action of the prism on light and electric waves. From the theory of light we know that waves of short wave length like violet waves are more refracted than waves of longer wave length like red waves. Dr. Fleming has proved, however, that electric waves whose length is 8 in. are more refracted than violet waves whose length is about the fifty thousandth part of an inch. Hence we must not too hastily conclude that the only difference between the waves used in wireless telegraphy and light waves is their size. Dr. Fleming is to be congratulated on his invention, which gives great promise of increasing our knowledge in the immediate future.

Incandescent Gas Lighting.

A GREAT reduction in the price of Welsbach appliances for incandescent gas lighting was made on the 1st inst. The retail price of ordinary mantles has been reduced to $7\frac{1}{2}$d., whilst mantles for Kern burners, Nos. 4 and 7, have been reduced in price from 1s. 3d. and 1s. 9d. to 9d. and 1s. 6d. respectively. The charges for burners have also been materially reduced. We understand that reductions are also about to be made in the prices of mantles and fittings sold by the New Sunlight Incandescent Gas Light Company. Attention has been drawn in previous issues to the exorbitant charges made in this country for incandescent gas lighting appliances as compared with Continental prices, and it is satisfactory to observe that a step is now being made in the right direction. In view, however, of the fact that an excellent mantle may be bought on the Continent for 3d., the charge of $7\frac{1}{2}$d. must be regarded as still too high. Nobody grudges the inventor of an article of great public utility a handsome reward for his labours, but in this country we too frequently suffer unduly from the popular system of company-promoting; for under this system the community often loses much of the benefit which should result from the invention, the inventor does not always receive a fair share of the profits, and the shareholder frequently obtains but a poor return for his investment, in spite of the fact that extensive business is being done.

Health Report of Liverpool.

THE Annual Report of the Liverpool Medical Officer of Health forms, as usual, a considerable volume of statistics very systematically arranged. We gather from it that the campaign is still being slowly but continuously carried on in Liverpool against the class of insanitary property called "court property," consisting, apparently, of houses built along each side of a narrow paved court closed at one end and forming a *cul-de-sac;* in some cases apparently with the additional evil that the houses are built back to back with another row, forming the lining of the next "court." It would be impossible to imagine a more insanitary way of putting houses on the land than this, which appears, from the Report, to be very prevalent in the older portions of the poorer districts in Liverpool. Certain blocks of property of this kind are mentioned as now scheduled for demolition, which have existed as they now are for at least ninety years, being shown on maps as far back as that, on exactly the same lines as they stand at present. One can imagine what an accumulation of rottenness and dirt, and everything inimical to health there must be in blocks of houses of that kind after such a lapse of time. We wish the Liverpool authorities speedy success in their endeavours to clear out such areas and replace them with healthy buildings. One or two photographic views of courts of this kind are appended to the Report, and form a forcible comment on the statistics contained in it.

Two City Churches to be Pulled Down.

THE benefice of St. George, Botolph-lane, is to be united with that of St. Mary-at-Hill, and the proceeds of the sale of the site and materials of St. George's Church will be applied to the endowment of two new churches in the suburbs. St. George's Church, which has remained closed during some years past, being in an insanitary condition and much out of repair, was built by Wren, in 1673-4, at a cost of 4,510*l.* Constructed of stone, it has a very plain design, with a tower, 16 ft. square on plan, rising to a total height of 84 ft. In the interior, Corinthian columns, two on each side, separate the nave from the aisles; the aisle roofs are flat, the nave roof arched in sections. There is an oak reredos with a Corinthian order. On the sword-iron is a tablet to the memory of William Beckford, lord-mayor, *obiit* June 21, 1770. Many members of the Fishmongers' Company were buried in the church vaults. The Ecclesiastical Commissioners have also framed a scheme for uniting the benefices of St. Bartholomew, Moor-lane, and St. Giles, Cripplegate Without, in pursuance of which another church to be dedicated to St. Bartholomew is to be erected with the proceeds of the sale of the fabric and its site in Moor-lane, Moorfields. That church was built by Professor Cockerell, who used much of the materials (including the tower with its singular top-stage) of St. Bartholomew-by-the-Exchange, pulled down in 1840. Wren rebuilt the latter church, leaving the old tower, in 1677-9, at a cost of 5,077*l.*; its site was taken for widening Threadneedle-street at the rebuilding of Tite's Royal Exchange, and is now occupied, in part, by the Sun Fire Insurance Offices, designed by Cockerell, but recently altered.

Old Lichfield.

MR. T. H. PYKE has prepared the plans and designs for the new buildings of the Lichfield Grammar School which are about to be

erected on the Borrowcop site, eight acres in extent. The feoffees of the Conduit Lands contribute 4,500*l.* towards the total cost which is estimated to be 7,000*l.* The school, being one of the many of which the foundation is commonly attributed to Edward VI.,* was rebuilt in 1692 at the joint charges of the Corporation and the feoffees of the Conduit Lands. The foundation claims amongst its *alumni* Addison, Ashmole, Samuel Johnson, Garrick, Wollaston, Bishop Newton, Chief Baron Parker, and the Chief Justices Wilmot and Willes. A few days ago Alderman John Gilbert, of Lichfield, presented to the City Council 250*l.* —the amount of the purchase moneys—together with a free conveyance of the house in Market-square, wherein Dr. Johnson was born on September 18 (N.S.), 1709. The house was offered to the Council for that nominal sum as part of the estate of the late Mr. J. H. Johnson, of Southport, who bought it for 800*l.* in 1887, and reinstated the building to what it was when Johnson's home. The Council covenant that the premises shall neither be pulled down nor be materially altered, and propose to form therein a museum of relics and mementos associated with Johnson and his literary works. There are engravings of the house after a drawing by Clarkson Stanfield, R.A., and the school after a drawing by John Buckler, F.A.S., engraved respectively by E. Finden and C. J. Smith, in the first volume of Croker's edition (1848) of the "Life" by Boswell. By a codicil to his will Dr. Johnson devises "my messuage or tenement situate at Lichfield . . . to my executors in trust to sell and dispose of the same."

Hampstead Etchings.

UNDER this title Mr. W. Monk, some of whose admirable drawings have decorated our New Year issues from time to time, has issued an artistically got-up portfolio of seven large etchings of subjects in and about Hampstead;† partly landscapes, partly old buildings. Among the latter is "Jack Straw's Castle" as it was before the alterations. The landscape examples—"London from Hampstead," "The Leg-of-Mutton Pond," and "The Ride, Hampstead," have very fine artistic quality, and the frontispiece, "The Firs, Spaniards," with the distant landscape seen between the upright stems of the trees, combines landscape and decorative effect in a powerful manner. The only thing we take exception to is the "R.E." after the artist's name, letters which we have before seen with surprise after the names of etchers, and which we presume stand for "Royal Society of Etchers" or something equivalent. It shows very little *savoir faire* on the part of that Society not to know that "R. E." stands, all the world over, for "Royal Engineers," and that they have really no right to use letters which are universally accepted as indicating that distinguished corps. They should rearrange their lettering.

WINDOW, ST. ANDREW'S, WILLESDEN.—A stained-glass window has been placed at the east end of this church; the centre lights representing the Crucifixion and the Ascension; the right side light the Transfiguration, and the left side light the Resurrection. The cost has been 426*l.* The window is the work of Messrs. Lavers & Westlake.

* From a small endowment payable to the funds out of the Exchequer it appears that the school was founded *temp.* Edward VI., if not by him.

† Published by the author [at 86, Fellows-road, Swiss Cottage.

ARCHITECTURE AT THE ROYAL ACADEMY.—III.

DOMESTIC architecture is more largely represented, at the Academy, in regard to number of designs, than any other branch of architecture, partly no doubt because buildings of this class can be represented in small drawings which it is comparatively easy to find space for.

We may take first those designs which may be classed under the head of street architecture, *i.e.* those which have only one frontage; these form a kind of connecting link between public and private architecture, since street architecture may be regarded as public architecture considered *en masse*, and is subject to legislative control. The first example in order of numbering, Mr. Ernest Newton's "Martin's Bank, Bromley" (1,688), is one of the best in the room, and is shown in a very good water-colour drawing. The ground story, the bank story, is very plainly treated in masonry—perhaps for the idea of a bank it might have been a little more massive in structure; above this are two bays segmental on plan, each supported on a central corbel and running through to the roof; the portion between the windows is apparently covered with lead (to judge from the colouring), with some impressed ornament at the edges and a bit of gilt decorative design in the centre. As a matter of perspective, by the way, the centres of the bays do not seem quite truly placed, and appear as if just on this side of the true centre of the curve. The upper portion of the walling is of brick, placed straight on the masonry without any moulding to divide them. This is a most characteristic building with a good deal of novelty in detail.

Mr. M. S. Hack's "Front for a Restaurant" (1,701), with its large pilasters framing the upper portion, is a type of design we not unfrequently see in shop architecture, only it is better treated in detail than usual. Mr. Garry's "Proposed Offices in West Hartlepool" (1,716), a very small coloured elevation, is a creditable attempt to give some character to a plain business building, with hardly any pretence at being ornamental; the ground floor is of stone, with a small Tuscan columnar order, the remainder of brick alternating with stone bands in the lower part, the vertical lines emphasised by narrow pilaster-like projections. There is more originality in Messrs. Harrison & Ward's "53, Maddox-street" (1,747), especially in the treatment of the stepped finish to the gable, with its large moulded stone capping; but it owes its effect partly to the clever way in which the texture and colour of the brickwork are treated in the drawing; it may be a question whether it would look as well in execution as it does in water colour. Mr. Bolton's little perspective drawing of the front of "St. Stephen's National Schools" (1,727) may be classed with street architecture, and shows a pleasing effect got by the arrangement of ordinary mullioned windows, and the manner in which the inscription tablets, with their cornice finish, are connected with the doors and the row of small lights over them.

A rather large perspective view of "Business Premises, Kingston-on-Thames" (1,767), by Messrs. Wimperis and Arber, shows a building of which the upper portion does not in the least belong to the lower; the upper walls showing a rather heavy Classic treatment with pilasters, the lower portion a row of old-fashioned shop windows curved outwards on plan; a balcony separates the upper and lower portion, which appear to belong to two different buildings. Messrs. Bateman & Bateman's "Printing Premises, Cornwall-street, Birmingham" (1,782), does not exactly come under the definition of street architecture, since it has fronts two ways; it appears like a *tour de force* in the way of erecting a stone building which shall be nearly all window, and with a very high roof with more than one story of dormers; it is picturesque, for that class of building, but one can hardly feel it to be genuine architecture, for one is forced to the conclusion that there must be a good deal of iron behind that apparently stone-built front with its thin piers and wide openings. "Manchester Warehouse, Cannon-street, Birmingham" (1,787), by the same architects, is a design of much the same type, in this instance diversified by a decorative cartouche with carved figures in the gable. These are clever attempts to give picturesqueness to buildings for severely practical uses; the drawback is that their outward appearance does not convey the idea of structural security; not that one feels any doubt of it, of course, but they look too thin and cut up for stone architecture.

Mr. Hare's front of the "Free Library, Wolverhampton" (1,810), is a peculiar one, the wall being apparently of coloured roughcast above a ground story of banded brick and stone; a very large gable in the centre, flanked by short octagonal cupolas, and a stone window-framing with curved panels below appearing in the midst of the expanse of roughcast. As a matter of architectural character we should certainly not take it for a free library, but rather for a working-men's club on a large scale. Public buildings to our thinking, do not bear this kind of naïve picturesque treatment, except in a quite small country town, where they may rightly have a more or less rural character.

Mr. Pite's coloured elevation of a "Study for a Street Front in Glass Mosaic and Faience" (1,832) is really interesting, and offers an important suggestion as to possible developments in London street architecture. One could have judged of the effect better if the window openings had been coloured in, dark, instead of being left blank. The lower portion of the front is treated in a solid architectonic manner in modelled terra-cotta with some colour, but not too strongly pronounced; the upper portion is flat with coloured foliage (inlay) meandering over it. This part of the design is too naturalistic for our taste; we wish it had been more severe and symmetrical in design. Figures are introduced also, within a framework, in this part of the front; these we presume represent the mosaic portion of the work. We should not like to see the upper portion carried out just as it stands in the drawing, for the reason already mentioned; but as a suggestion it is well worth attention.

Coming to the domestic architecture proper, we find first Messrs. Ernest George and Yeates's two drawings which have already been illustrated in our issue of May 19. The exterior view of "Holwell, Herts" (1,680: no plan) shows how an old house has been altered and enlarged in such a manner as to preserve its general character; but the exhibit would have been much more interesting if we could have seen how the additions to the plan had been managed. The interior view of the hall and staircase from "Edgeworth Manor" (1,681) is a very pleasant drawing of a hall and staircase treated in oak in Elizabethan style; the arcade masking the stairs, with its decorative carving and figures *à jour*, in the spandrels, is an excellent piece of work, though it may be objected that the design of the arches, with rusticated voussoirs at intervals, is rather too much of a masonry design carried out in woodwork. However, it certainly has plenty of precedent in this respect, both in ancient and modern work. Mr. W. R. Davidson's "Proposed House in the north of Scotland" (1,682) is a pretty small water-colour of a house evidently designed to express local style; roughcast with stepped gables, the ground-story wall on each side of the front door showing as uncovered masonry, as a simple method of emphasis and contrast. A plan is given, in which the most is made of the space, but that passage called "vestibule" would surely be rather dark. Mr. Atkin Berry's "Proposed House, Thames Ditton" (1,685: no plan), shows again the contrast of brick or stone and roughcast which is now so much in vogue; in fact, roughcast has become quite classical, as one may say, and is a method which no doubt supplies colour and texture to wall surface, but somewhat to the loss of monumental and dignified appearance. In this design there is a certain expression of plan, though the plan is wanting; the staircase window is obvious, the angle turret shows that rooms on two floors have a pleasant feature in the shape of an angle bay. Mr. Schultz's "Reconstruction of Wester Kames Tower" (1,691) reminds one (on a small scale) of the Salon and the schemes for restoring old châteaux which are annually to be found there; plans of three stories (one room and a circular staircase) are shown, and four carefully coloured elevations in which the new masonry is distinguished from the old, of which latter indeed there does not seem to have been much left, and the upper portion, with its roof, corbelled out angle turret, &c., is new work, which seems well in keeping with the existing remains of Scottish castellated architecture. Mr. Prentice's "The Retreat, Lakehead" (1,700: no plan) is a flint house with brickwork quoins, which derives its chief character

from a heavy projecting porch with stumpy columns and a pyramidal lean-to roof coming to a point against the wall. The roofing is odd in appearance in the drawing, and does not explain itself, except that the upper portion is differently covered from the lower; an expanse of brown over a great part of the roof is contrasted by a jointed covering on the upper part next the ridge, but what materials the two are meant for it is not easy to make out. Mr. Schultz's "Inholmes, Hartly Wintney" (1,704 : no plan) is a most uninteresting-looking house, without picturesqueness or charm of any kind; but carefully drawn and evidently carefully intended. This is one of the examples of the result of an exaggerated revulsion from ornament and gimcrack; it is now virtuous to have houses simply ugly. The gables in this example, judging from the drawing, appear to be boarded up, leaving one round hole as a window in the middle. Is this what house architecture is coming to?

Mr. R. Blomfield's "Design for House in New York" (1,708) is a sheet of drawings of the kind which we only wish were more numerous at the Academy. It is the kind of drawing which properly illustrates and explains a building, instead of merely making a picture of it; and gives elevation, plans, and sections complete. It is a narrow street house, something like the typical London one; the plan is very well managed, the entrance passage expanding into a small square hall divided by a colonnade of three bays from a square staircase —the two together filling up the width of the house; a passage running from this, on the axis of the plan, leads to the door of the library at the back, and connects it with that of the dining-room. Interior light is obtained by a small area. The front is simply but gracefully treated, with channelled rustication on the ground story and an order above between the drawing-room windows, guarded by pilasters at the sides; the attic strikes one as a little too high in proportion for the rest. As a small point, the incident of making the two outer of the four dining-room windows narrower than the other two should be noticed; it makes all the difference in the character of the front. The author is to be commended for thus resisting the temptation to make picturesque views, and sending a practical set of architectural drawings, which however are so well and carefully drawn as to be quite satisfactory to the eye.

This is a far more interesting exhibit, for instance, than Messrs. Armstrong and Wright's large pen perspective of "Stelling Hall" (1,698 : no plan), a large house with an octagon bay, terminating in a parapet, on each side of the entrance, above which a low-pitched gable sits rather awkwardly. This may be an interesting house on plan, but there is nothing to show this; it is not interesting in perspective, at all events. Still less is Messrs. Gibson, Clark, & Warwick's "House at Wembley Hill" (1,717 : no plan); people used to talk of a "shooting-box"; this is a "box," and nothing more. Mr. James Ransome's "House at Leicester" (1,715 : no plan) is a pretty water-colour sketch of a rough-cast house with brick chimney-stacks which are treated with a certain originality; square stacks dividing into four at the top. Mr. Paxton Watson's "Lea Park, Surrey" (1,720 ; no plan) is one of the class of houses which are called in the newspapers "a picturesque pile"—a tower (with battlements), a mass of solid masonry with two semi-octagon bays, terminating in a parapet, above which look two elaborate gables of black and white work; as if the whole were made up of bits of different buildings put together in a kind of accidental manner. Mr. Prentice's "Entrance Gates and Lodge to Mansion, Suffolk" (1,719 : no plan) is a charming drawing, very original in style and execution; his treatment of the lodge front towards the gates is effective; two heavy square blocks project, one of them open, on the stumpy columns which are so much in vogue; the other closed and windowed; the eaves and roof of the two projections are symmetrical. They run awkwardly, however, into the high main roof of the lodge, the whole makes rather a "heap" of roof, a treatment which seems for some reason to be considered proper to lodges. Messrs. Niven and Wigglesworth's "House, Weymouth Park" (1,725 : no plan) is a good line drawing showing a house repeating the now common treatment of brickwork below and rough-cast above; a special feature is the use of panelled angle posts on the upper wall with large carved corbels carrying the projecting eaves Mr. C. A. Nicholson shows a large rather heavily-executed water-colour of "The Grange, Totteridge" (1,733 : no plan), with no special feature about it except the praiseworthy attempt at a conservatory of brick and stone, uniform with the structural design of the house, instead of the usual ephemeral-looking structure of wood and glass tacked on. The conservatory is a semi-octagon, with large circular-headed windows on each face; considering the shape of the windows, it was a mistake to make the parapet in drop curves, the two curves opposed to each other look bad; but the idea in itself is a very good one. Some light may surely be sacrificed in the conservatory of a private house for the sake of architectural unity. Mr. H. Goldsmith's "Bungalow Hall, Altrincham" (1,735 : no plan) is a nice-looking rural residence of what may be called the enlarged cottage class. Mr. F. Buckell exhibits a very pretty little *bijou* water-colour drawing of a "Proposed Clubhouse for the Wingham Golf Club" (1740), to which a plan is added; the house is picturesque, but we hope that before it is carried out the relative position of the doors of the ladies' and gentlemen's retiring rooms will be altered; as shown in the plan they are really hardly consistent with decorum, as members would soon realise if the house were built that way. It is odd how frequently architects seem to overlook this homely but very important point in planning.

The further examples of domestic architecture we will return to another week.

MAGAZINES AND REVIEWS.

THE *Art Journal* is almost entirely occupied with reviews of the exhibitions of the Academy, the New Gallery, and the new English Art Club. A reproduction of Mr. Stanhope Forbes's fine picture, "The Drinking Place," forms the frontispiece. No. 2 of the special Paris Exhibition Supplement is issued as a companion publication to the *Art Journal*.

The most interesting section of *The Artist* is the series of illustrations of decorative work by Herr Gustav Gurschner, a Viennese artist, whose designs for lamps, electric-light appliances, &c., are marked by a great deal of originality of conception. He largely employs heavily-draped female figures of a conventionalised and rather antique cast as integral portions of his designs.

The *Studio* (May 15) has an illustrated article on the work of Mrs. de Morgan (Miss Pickering); one on M. Morin, the French caricaturist, who seems also to be a very good sketcher of architecture; and one on "The Ornamentation of Textiles," containing illustrations from Mdme. Paul Errera's collection of ancient textiles at Brussels.

The *Antiquary* contains a summary of the results of the Ribchester excavations; an article, with illustrations, on two ancient crosses at Whalley and Mytton; and the second part of an article by Canon Raven on "The British Section of Antonine's Itinerary."

The *Genealogical Magazine* illustrates and comments on the arms of the borough of Dukinfield, about which a curious point is noticed; the arms include a raven in the first quarter, and it is stated that the local name for a raven was a "docken," hence the first half of the name. Under the head of "Things which might be attended to" is an article on the correct form of mitre for archbishops and bishops. The Camoys brass, in Trotton Church, Sussex, is described and illustrated.

The *Berliner Architekturwelt* is an interesting number, containing, besides the continuation of notes and illustrations of the German section at the Paris Exhibition, a considerable number of interiors, entrance doors, and other details of street and house architecture in Berlin and the neighbourhood, with plans. The exterior of the Kaufhäusergruppe in the Spandauerstrasse (Höniger & Sedelmeier, architects) shows a new treatment of a narrow end of a block of buildings, a subject of which we had a good many illustrations lately.

The *Nineteenth Century* contains an article on "The Vogue of the Garden Book," by Mrs. Batson, commenting on the present taste for books about gardens, and on some of the books, but omitting all mention of the best of them, that by Messrs. Blomfield and Inigo Thomas. But that of course is a book by architects, and a general literary writer never knows anything about architects' books. The same number contains also an article by the editor of this journal on "The Genius of Handel" (written of course partly *apropos* of the coming Handel Festival), which may interest some of our musical readers.

The *Forum* contains an article on Ruskin by Mr. W. P. P. Longfellow, which every one interested in the subject ought to read; it is decidedly the best and most thoughtful criticism on Ruskin that we have seen, fully sympathising with what was admirable in him and his writings, but also showing what were his weaknesses. Mr. Longfellow devotes some space to Ruskin's gifts as an artist, justly observing that too little attention has been paid to this side of his acquirements. Among the numerous articles which have appeared on Ruskin since his death, the American writers show, it must be confessed, far better and sounder critical judgment than most of the English ones. The same magazine contains an article on "A Plea for Trees and Parks in Cities," by Mr. Louis Windmüller. He speaks strongly on the neglect to provide any trees, with their much-needed shade, in the streets of New York. For the rest, the article is much what all sensible people will concur in.

The *Dublin Review* contains an article by Mr. A. F. Spender on the subject of "The Catacombs of Syracuse," of which little is generally known. There are three principal ones, called by the names of Santa Maria di Gésu, Cassia, and San Giovanni, the ramifications of which extend beneath a considerable portion of the city. The description of them and of the ancient frescoes existing in them is of considerable interest.

Scribner, under the heading of "The Field of Art," has a short essay by Mr. La Farge on "Colouring Statuary and Architecture," which suggests the view that, whether by barbarians or Greeks, such colour was not applied to statuary with any idea of producing realism, but with the aim of harmonising a work with its surroundings, or of emphasising certain points in the work which it was desired should stand out. As far as the Greeks of the great period were concerned there is no difficulty in accepting this; in fact, we do not know that any one has ever suggested that they aimed at realism in colouring sculpture; and no doubt the frieze of the Parthenon, for instance, would have looked very blank if left in white marble amid the coloured ornamentation of the architecture. But we are inclined to think, nevertheless, that in archaic Greek art realism, of a very naïve kind, was the object, and in modern sculpture it appears to us that the instinct which prescribes pure white marble for an ideal subject in sculpture is right. Sculpture of this kind is an abstract art, giving expression through abstract form, and through form only. Colour tends to disturb and to materialise it. The same number contains an article on the portraits of Mr. J. M'Lure Hamilton, in which he aims at catching the manner and pose of the sitter when about his ordinary occupations; what may be called *genre* portraiture. Mr. Hamilton has a genius for this kind of portraiture, and is therefore right to give himself to it; but it is not, for all that, the highest class of portraiture; it tends to distract the attention from the main object of the portrait, and to give us accidental instead of essential characteristics of the sitter. The title of one of the portraits illustrated—"Mr. Gladstone editing the works of Bishop Butler," is rather absurd, and reminds one of the stage direction in the *Anti-Jacobin*—"groups of soldiers pass across the stage, as if returning from the Thirty Years' War."

The *Century* contains a brief note, by Mr. Archibald Butt, on a real architectural curiosity—an uncompleted cathedral arcade in Mexico of which the world knows nothing, and which, says the writer, few persons even in Mexico have seen. It is in the outskirts of the town of Tlalmanalco. The small illustration shows a row of semicircular arches, apparently on clustered column piers, the spandrils not built up, so that the upper line of the construction is formed by the extrados of the arches. The people of the town have built walls on each side of the arcade to protect it from injury, rightly regarding it as a valuable relic of the past, though their theory, that it is an ancient work of the Aztecs, is unfortunately contradicted by the existence of Christian inscriptions on the spandril of what was meant for the chancel arch (apparently the only one where the spandrils were added). Oddly enough, the writer of the article forgets to say in what language these "inscriptions" are, but he no doubt means that they are Spanish, as the coat of arms of Spain is carved in

contiguity with them, as well as the crest of the Franciscan order. The strange thing is that the actual workmanship of most of it is described as being obviously Aztec, as nearly every carved stone contains either an Indian head or an Aztec idol. It appears therefore to have been done by Aztecs under Spanish direction or compulsion. The same number of the *Century* contains a most extraordinary article by Mr. Tesla, on "The problem of increasing human energy," which however, we must confess, hardly strikes us as entirely sane writing. Mr. Cole's translation of Turner's "Ulysses and Polyphemus" is a very fine bit of broad handling in wood-engraving.

Harper has an illustrated article on the child-portraits of Matthew Harris Jouett, who is called "Kentucky's master painter," and who painted chiefly Kentucky children. There is a good deal of character in the portraits as far as one can judge by the illustrations here; but in seeing all these successive notices of artists who are all "eminent" or "masters" one cannot help feeling that there is still left in the American mind a little leaven of that habit which Dickens satirised half a century ago, of introducing every other person as "one of our most remarkable men, sir." The article on "Balloons in War" treats of a practical subject which may have interest for others besides military men.

The *Fortnightly* contains an article by Mr. H. Heathcote Statham, "At the Royal Academy," consisting of a review of the principal works in painting and sculpture.

The *Pall Mall Magazine* contains an article on "Claude Monet" by Mr. Wynford Dewhurst, which comes too late in the day, embodying as it does all the exaggerated views as to the greatness and value of the Impressionist school of artists, which sober-minded critics are now beginning to see the futility of. Impressionists, on the one hand, no longer need "pushing," and therefore literary campaigning on their behalf is unnecessary and out of date; on the other hand, they have found their level, and are not likely to be forced above it again. It is a measure of the author's critical judgment that he refers to Rodin's absurd *ébauche* of Balzac as a great work.

The *Gentleman's Magazine* contains a short article by Mr. W. Bradbrook, under the title "Armoria Adversaria," on the use and abuse of armorial bearings (he mentions one or two odd instances of the latter), and suggesting a more careful preservation of old armorial bearings, and that people should be taught something about them and their original meaning, instead of being encouraged or allowed to destroy them. Mr. Bradbrook laments the rate at which the Royal Arms are disappearing from our churches. "Of eighty-seven churches in Bucks known to the writer twenty-one only now possess them." But, it may be replied, what were the royal arms ever doing in our churches? They had surely no business there, as if the house of God was an appanage of the Court. The same number contains an article on "Eastbourne Antiquities," which we are glad to see. Eastbourne is regarded by so many visitors merely in the way of a modern watering-place with a "sea front," that many are quite unaware of the amount of antiquarian interest existing in the old part of the town and in old Eastbourne village, a mile or so inland.

The *English Illustrated Magazine* includes an illustrated article on "The Penny and its Story" giving the various forms of silver and copper coinage of the realm which have borne the title of "Penny."

The Quarry includes an article on "The Geology of the Plain of Caen," with a number of sections. The serial article on "The Mineral Industries of the United Kingdom" deals this month with the district of Yorkshire.

In *Knowledge* the series of articles by Mr. Maunder, on "Astronomy without a Telescope," of which No. 5 appears this month, should be very useful in enabling amateur observers to realise for themselves some of the problems of astronomy. The same number contains a detailed description of the *modus operandi* in selecting works for the Royal Academy Exhibition; it may be interesting to the many "rejected" ones to know something of the process by which their doom was arrived at.

REREDOS, LETHERINGSETT CHURCH, NORFOLK.—A reredos has been placed in the chancel of Letheringsett Church by Sir Alfred Jodrell. It was designed by Messrs. Hicks & Charlewood, of Newcastle-upon-Tyne.

THE ARCHITECTURAL ASSOCIATION:

ANNUAL DINNER.

THE annual dinner of the Architectural Association was held on Thursday evening last week at the Criterion Restaurant, Piccadilly Circus.

Mr. G. H. Fellowes Prynne, retiring President, was in the chair, and among those present were the Bishop of Rochester, the Rev. A. B. Boyd Carpenter, the Rev. J. Beeby, Sir H. Howorth, M.P., Professor Hulme, Professor R. E. Smith, Colonel Ottley, Messrs. W. Emerson (President of the Royal Institute of British Architects), E. W. Mountford, H. L. Florence, L. A. Stokes, W. J. Locke, T. Blashill, H. W. Pratt, F. W. Pomeroy, Basil Champneys, W. E. Riley, Beresford Pite, A. Jacob, E. T. Hall, H. Holloway, H. Lovegrove, C. Wall, and W. Howard Seth-Smith, President-Elect.

After the toast to "The Queen and the Royal Family," proposed by the President, had been loyally received,

The Chairman proposed "The Church and the Legislature." He said this was a somewhat unusual toast, but in an audience such as the present in which of necessity views must differ, they could all treat it in the broadest and most liberal sense. As artists they knew no party in politics, and no party or narrow-mindedness in religion. The views and convictions which they had did not penetrate into the sacred channels of their own art. Art as art knew no distinction whatever; whatever were their convictions they admired it whether it was in a cathedral or elsewhere. But who could gauge what an enormous influence the Church had had upon architecture in this and other lands? It was perfectly impossible to gauge the vast influence the Church had had upon the minds of architects. Nay, to widen the scope surely religion had been the greatest incentive of the human race in all ages to erect large, noble, and grand buildings. Had it not been religion that from the very first was the great motive power—the great force—the great lever which had helped men forward to erect the greatest historic buildings in all generations? If we looked at the temples of Egypt they spoke to us of generations six thousand years ago, and still told us their wonderful history both in their religion and their politics. Then, again, the temples left to us in Persia and India, Greece, and Rome, the crude dolmans of the Druids, the magnificence of the Jewish temples, the grandeur of the Bazantine and early Christian churches, and last but not least the exquisite and symbolic beauty of the later Christian temples, all spoke to us the same tale of the incentive of religion. Surely their eyes must be blind and their minds dead if they did not see that throughout all generations religion had been the one great power that had ruled the mind in architectural design! While there was no doubt that the influence of the Church had been tremendous, and had supplied our land with beautiful specimens of the architecture of the past, yet the influence of architecture upon religion had also been great. Our grand cathedrals, beautiful country churches, had influenced the minds of men for generations and continued to do so. Second only to the influence of religion upon architecture was the national instinct which had been displayed in all generations. In this great nation there should be some idea, some great wish, some desire to pass on by noble buildings the history of the largest empire the world had ever seen. Were we perfectly satisfied with many of the public buildings we saw around us, all nobility of which was cut down by mere economic and solely utilitarian ideas? Surely some men would arise to advocate that our national buildings should be more monumental in character! He was one of those who believed most conscientiously that the beautiful in churches and national buildings had an enormous influence on the mind. They either spoke of the goodness or the depravity of a nation, its riches or its poverty, its weakness or its strength, and there was no nation in the world who should be better able to raise greater buildings than Great Britain. If the Government were to spend, in time of peace and prosperity, the cost of an ironclad upon monuments to our greatness it would not only tend to enrich our metropolis, but add to the glory of the empire.

The Bishop of Rochester, in reply, said it was quite true that those who represented the Church, and those who represented architecture, owed a great deal to one another. That certainly did not admit of any doubt, and if they were asked what were the noblest outward possessions of the Church of this country they would unhesitatingly reply: the great cathedrals which were erected by the architects of the Middle Ages; but, on the other hand, they could not forget that it was the Church of that period which offered to the architects their best opportunities. There were gentlemen in the room who had done architectural work for the Church, and he hoped they had some little gratitude to the Church which had called in their aid. There were instances where the cleric and the architect were one and the same person. That was so in the case of William of Wykeham, and then there was the spire of All Saints in the High-street, Oxford, which was designed by the Dean of Christ Church. The cleric and the architect having mutual relations were considerably acquainted with each other's foibles. They were living in a time when there was a considerable revival both in the Church and architecture. Some clergymen were suffering from preaching in churches where the first efforts of architects in this revival were displayed. He remembered worshipping in the chapel at Keble College, and felt what a dignity there was of line and proportion, but he also felt what a crude experiment in colour there was upon the stone and glass, which was a little distracting and perhaps displeasing to the eye. On the other hand he had no doubt that some of the gentlemen present that evening could tell how their delicate and beautiful architectural schemes had been cramped by the perversity of some of those persons who would have their way whether it tended altogether for good or evil. There was also a most intimate connexion between architecture and the higher faiths in man. In this age of magnificent development of skill and material there were an immense variety of opportunities for architects, possibly greater than they had ever enjoyed, and he was sure that they would aspire to the noblest work, and there should be working through his art, ennobling, refining, and purifying it, all that they understood by religion.

Sir H. Howorth also responded to this toast. There was a large collection of men in the Houses of Parliament who were Philistines with regard to art. They had not been educated in it, but he thought a large proportion of them would do right if they could only get professional gentlemen to agree. Whenever a public building was to be erected plans were exhibited in the library or the tea-room of the House of Commons, and they were submitted to a great deal of criticism which was very often ignorant; but nevertheless, they were creating a genuine feeling that they must, if possible, do their best by selecting, not so much the best works, but the best judges of those works, to settle what our public buildings should be. In the House of Commons itself they had the greatest monument of building art, especially if they remembered the time at which it was erected. It was a glorious building despite any criticism as to its details, and it would remain to all time an extraordinary piece of beauty. It was a curious fact that it stood side by side with two other buildings, each in itself a supreme jewel—St. Stephen's Chapel, which was so glorious as to be absolutely unmatchable, and the great hall that was built by Rufus and roofed by Richard II., and which was the most magnificent hall in Europe. They had a number of statues in the House of Commons, some of which might very well be removed, but there was one recently added to them, erected in memory of one of the greatest Englishmen and the greatest Parliamentary man of this century, and the artist was Mr. Pomeroy, who was present that evening.

Mr. Beresford Pite then proposed "The Royal Academy and the Royal Institute of British Architects." He said it was a matter of great regret that they had no representative of the Royal Academy present, but in his memory of the Architectural Association's dinners they had never missed this toast. The Royal Academy represented to them the allied sister arts, just as the Royal Institute of British Architects represented their own art to them. The link between the Royal Academy was a very definite one, inasmuch as it provided an architectural school for architectural students, which was gratuitous and of immense value. The Academy had their best wishes, and as a matter of fact they could not entertain a complete view of their own art if they allowed themselves in any way to get out of sympathy

with the higher arts—the arts which were capable of more complete intellectual expression than architecture, which was an almost silent art. The Royal Academy included the art of the sculptor, which came nearer to their own. With regard to the Royal Institute of British Architects, that dealt with the difficulties and business questions of the profession, and also provided a common ground for debate upon the higher questions of art, and was indispensable to their success.

Mr. W. Emerson, the President of the Royal Institute of British Architects, after expressing his pleasure at being present and his thanks for the splendid reception accorded the toast, said that the future prosperity of the Royal Institute of British Architects depended very much upon the Architectural Association. The latter was noted for very hard work, and their President had attended between 150 to 200 meetings, and he knew how great an interest they took in the education of students. The Royal Institute of British Architects was also endeavouring to promote education by examinations on special subjects appertaining to architects. Quite apart from that, efforts were made to raise the influence of architects upon the public. This could only be done by upholding their own conduct, and he did not think that it tended to the dignity of their profession, or tended to raise the influence of architects or architecture upon the public mind, if they allowed themselves to go in for competition in an haphazard manner, or on purely personal grounds utterly regardless of the future or the general interest of the profession. There had been so many competitions where the terms were absolutely unfair and outrageous, and yet there had been numbers of architects who had competed. If they did not have sufficient self-respect they could hardly expect proper respect from the public, and they could not expect a higher value for their work than they placed upon it themselves He quite agreed that the scarcity of public buildings to record the national history was a great disgrace to the country.

Mr. E. T. Hall proposed the "Army, Navy, and Reserve Forces," and Col. Ottley responded.

The Rev. A. B. Boyd Carpenter then proposed the "Architectural Association." He said they had every reason for wishing it success, because it was carrying on a useful and educational work. It was not in the power of all to employ architects, but they could all enjoy their work, and as a man in the street he could only hope that opportunities would arise so that there could be more of their handiwork—work of their beautiful creation—in our somewhat monotonous streets. Theirs was a great work—a great profession—and their art was closely allied to religion. One aspect of the relationship of religion to their art was of great importance. The great motive power which made the distinction between trade and art was the spirit of religion which touched it. And then in one way architecture held its own in face of all arts in all the uses to which it was put. If it was for a warehouse, it was for the home of commerce; if it was for the domestic home, then the spirit of love indwelled there; if it was for a temple or a church, the spirit of religion was there. The spirit of commerce, the spirit of love, and the spirit of religion—these were the great things for which they worked. The Association was fifty-three years of age, and sprung from the enthusiasm of young hearts and numbers of students collected together to study architecture for themselves; and the Association had now become a great teaching body, teaching architecture from all points of view. At the present time the majority of the members were young men, and it was to the youth that the future belonged. He hoped that they would achieve great things with their beautiful art. There was yet a great place for architecture in this country, and he hoped the time would not be far distant when there would be more opportunities for architects, and that they would do honour to themselves and credit to the age in which they lived.

The Chairman, in reply, said that they had hoped to be honoured by the presence of Sir Edward Clarke that evening, but at the last minute he wrote that it was impossible for him to attend. He had also received letters from Sir John Voce Moore, Mr. Richards, Q.C., and their dear old friend and Past-President, Aston Webb. The position of their Association, he continued, was much misunderstood, both by societies who ought to know better and by the public generally. They were confused with the Royal Institute of British Architects, of which they were thought to be a branch, and they were confused with the Society of Architects. They were neither and wished to be neither; they were purely and simply an independent Association working upon their own lines, with one great object in view to help forward in every possible way the architectural education of those entering the profession. Surely with such a high motive they ought to receive the support and sympathy of every true artist. As the proposer of the toast said, the Association commenced from the enthusiasm of students, who fifty-four years ago had linked themselves together for mutual improvement, and it had grown bit by bit until it now numbered 1,318 members. Of these a large majority had grown in the Association. They belonged to it from the beginning and had grown up in the profession practically from it, and many had reached honoured positions in the profession. The first object of the Association was educational; it gave those who had gone through the lower ranks the chance of offering voluntary help to others who were coming on, the great desire being to assist the welfare of their noble art. This work, of course, was not carried on without a considerable amount of voluntary labour, and he could bear testimony to the cordiality and enthusiasm of the officers and committee. During the two years he had been President there had not been the slightest friction, but they had all worked together in perfect harmony, with the result that really good, sound, and substantial work had been done. They had their social side, which was very enjoyable and in many ways most useful in bringing their older and younger members into touch with one another, and he thought all who had been present at the last soirées would agree that their amusement had been absolutely free from vulgarity. His heart had been thoroughly in the work during the time he had held office; if he had made an enemy he did not know him, while he had obtained the valued friendship of many, and he knew that his successor, Mr. W. Howard Seth-Smith, whom they would all welcome, had the deepest possible sympathy in the work.

Mr. E. W. Mountford proposed "The Lecturers and Instructors." He said a very great deal depended upon the lecturers, as their discourses formed an important feature of the work. They had had many distinguished men lecturing to them, including Mr. Farrow. He could not help thinking that the elder members of this Association did not have the advantage as instructors that the younger members now had.

Professor Hulme, in reply, said that in his experience in teaching he had never had a more pleasant task than lecturing to this Association where the students were so enthusiastic. They had certainly given the teachers great encouragement.

Professor R. E. Smith also responded, and said it gave him very great pleasure to be an instructor to those students who attended with the idea of doing their very best and acquiring some instruction. There was sympathy between the class and the teacher.

Mr. Leonard Stokes then proposed "The Guests," which was responded to by Mr. Basil Champneys and Mr. W. E. Riley.

Mr. Thomas Blashill proposed the toast of the "Committee and Officers," whom he said had done excellent service deserving the thanks of all the members.

Mr. G. B. Carvill (hon. secretary) briefly replied.

Mr. H. L. Florence proposed "The President-Elect" (Mr. W. H. Seth-Smith), who was accorded musical honours.

Mr. Seth-Smith, in expressing his thanks, said how much he had the objects and the interests of the Association at heart. He then proposed the health of Mr. G. H. Fellowes Prynne, the retiring President and Chairman, which was also accorded musical honours.

The proceedings then terminated.

THE THEATRE, GREAT QUEEN-STREET.—This theatre, re-opened on May 24 by Mr. W. S. Penley, was reconstructed for him by Messrs. Murray & Foster. After the dissolution of that firm in October last the works, together with the redecorations, were completed by Mr. John Murray. The house was originally opened as the Novelty on December 9, 1882, having been built after the designs and plans of the late Thomas Verity, *obiit* May, 1891, Surveyor for Theatres to the Lord Chamberlain.

BUILDING TRADES' GIFT TO THE NATION:

HOMES FOR DISABLED SOLDIERS.

DURING the past month the organisation of the provincial contributions towards the Homes of Rest for Disabled Soldiers has primarily had the attention of the Executive. Arrangements have been made by Mr. T. F. Rider, Past President of the Master Builders' Association, by which both the builders and their men are now rendering active assistance in many parts of the country. The money thus collected goes to meet the cost of the labour in erecting the buildings, for which so many firms have already presented the necessary materials.

At Leicester both builders and workmen, co-operating, organised a concert by which 170*l.* were raised. At Derby a similar concert was arranged, which resulted in 50*l.*; and another concert is being arranged at Nottingham. In Birmingham the matter is being taken up by the trades-unions as well as by the masters' associations, all artisans contributing 1s. 6d. per head and all labourers 1s. per head. At Walsall similar steps are being taken. At Wolverhampton the joiners and carpenters have collected 30*l.*

Throughout Yorkshire collections are being made under the auspices of the Builders' Federation. There they take the form of a series of small contributions on the part of the men, spread over several weeks, on all building jobs throughout the county, as well as donations by the masters. A collection is also being organised for next month throughout the county of Lancashire under the auspices of the Lancashire Builders' Federation. Again, at Bournemouth a collection is being organised, and similarly at Plymouth; whilst Brighton has already contributed 25*l.*, and has the matter still in hand.

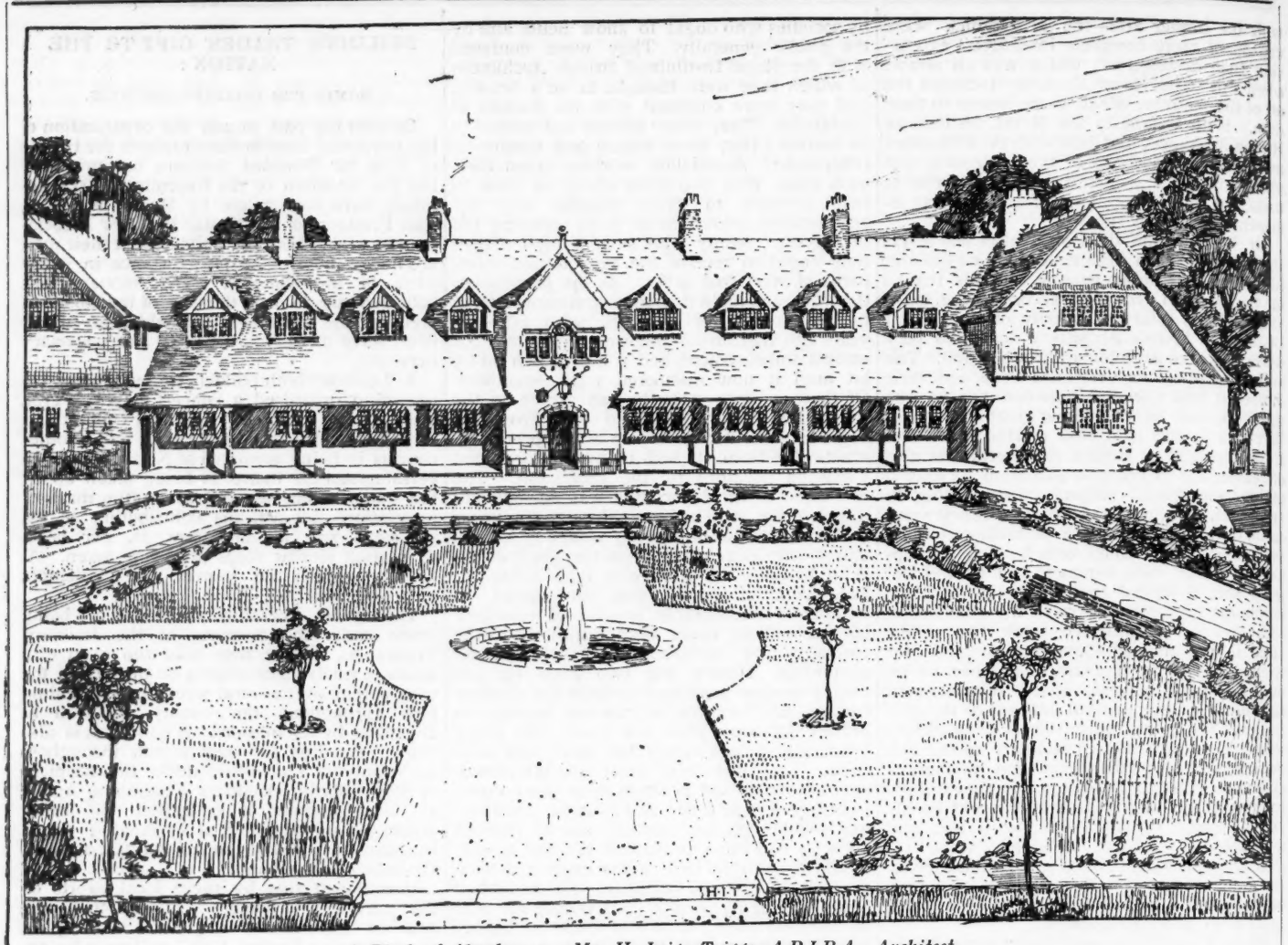
It is hoped that by these local efforts on the part of this widely scattered trade the sum of 6,000*l.*, still required to complete the "Building Trades' Gift," will soon be obtained, more especially as nearly 20,000*l.* have already been brought together and building operations at Bisley have already commenced.

All contributions should be directed to the Executive of the "Building Trades' Gift," 1, Waterloo-place, Pall Mall, S.W.

Mr. T. F. Rider, as Honorary Secretary to the Gift, announces the following further contributions which have come to hand this week:—

	£	s.	d.
A Friend (being the proceeds of a raffle for a brooch)	60	0	0
Collected by Mr. Middleton (Messrs. Malcolm Macleod & Co.)	25	0	0
Colonel Stanley G. Bird	21	0	0
Workmen of Messrs. Y. & M. Patrick (Wandsworth)	17	9	9
Messrs. Harrison, Robinson, & Co. (Manchester) (per Mr. Robert Neill)	10	0	0
Messrs. F. & F. J. Wood	5	5	0
Messrs. Chas. Taylor, Son, & Co., Manchester (per Mr. Robert Neill)	5	5	0
Messrs. Pierce Watts & Co., Manchester (per Mr. Robert Neill)	5	5	0
Mrs. Stella Ochs	5	0	0
Workmen of Mr. Alfred Bush (per Mr. W. W. Gill)	3	18	6
Workmen of Messrs Treasure & Son, Holloway (per Mr. G. H. Webster)	2	14	0
Workmen of Messrs. F. & F. J. Wood (per Mr. H. Quarrel)	2	6	0
Workmen of Messrs. Malcolm Macleod & Co.	2	3	0
Mr. T. R. Vaux, Manchester (per Mr. Robert Neill)	2	2	0
Messrs. Greenway, Clive, Vale, & Co., Manchester (per Mr. Robert Neill)	2	2	0
Mr. T. A. Fairchild	2	2	0
Workmen of Mr. S. Pocock (Wandsworth-road)	2	0	0
Workmen of Mr. Henry Line	1	19	0
Mr. F. W. Horey and Workmen	1	8	6
Workmen of Mr. T. A. Fairchild	1	7	6
Workmen of Messrs. F. & F. J. Wood (per Mr. E. Galyer)	1	0	3
Messrs. Hancock & Sons and Workmen (Kensington)	1	0	0
Mr. M. Knight (Lewes)	0	10	6
Miss Cording (Marlow, Bucks)	0	10	0
Workmen of Mr. Benjamin Wells	0	5	0

THE ARCHITECTURAL ASSOCIATION SUMMER VISITS.—The first Summer Visit of the Association, on June 16, will be to Deepdene, Dorking, by permission of the Duchess of Marlborough. Train leaves Victoria at 1.45 p.m. Members to meet at the booking-office. This visit will be conducted by Mr. H. Dymoke Wilkinson. The second Summer Visit will take place on June 30, and will be to the new Christ's Hospital school buildings, Horsham. Messrs. Aston Webb, A.R.A., and Ingress Bell, the architects, kindly promise to meet the party if possible. Members to assemble at Victoria Station (L.B. and S.C.R.) for the 1 45 p.m. train.

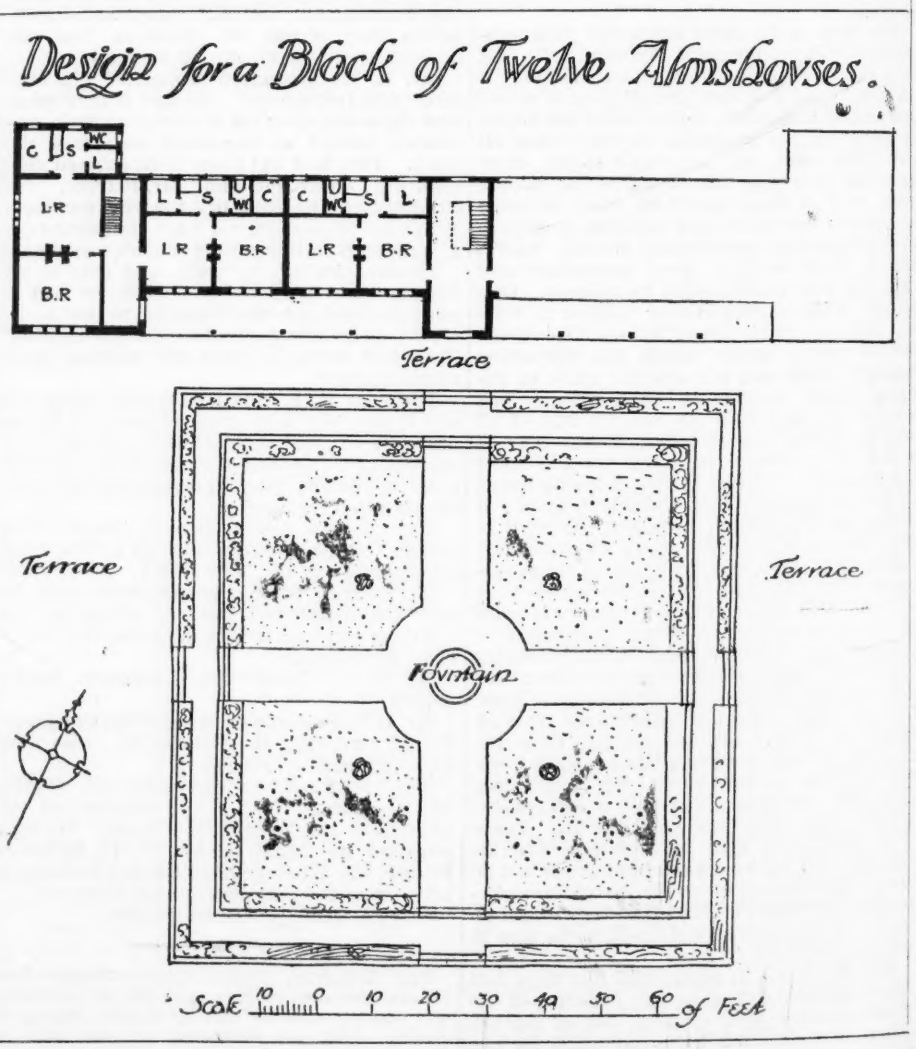


A Block of Almshouses. Mr. H. Inigo Triggs, A.R.I.B.A., Architect.

DESIGN FOR A BLOCK OF TWELVE ALMSHOUSES.

THE design is arranged upon two floors, access to the first floor being gained by means of staircases at either end and in the centre of the block. Each suite contains a living-room, with cooking range, scullery, water-closet, larder, and coals, the latter being entered from the outside in the case of the ground floor. The sunk garden consists of three levels, the lower level being about 5 ft. below the terraces, and in the centre is a small fountain.

The materials are red brick with yellow stone dressings, with the exception of the central bay, which is entirely of stone. The roof is tiled, and the end wings are tile-hung. The design, which was exhibited at the Royal Academy of last year, is by Mr. H. Inigo Triggs.



ARCHITECTURAL SOCIETIES.

ARCHITECTURAL ASSOCIATION OF IRELAND.—This Association held the last meeting of the session on May 31 at the Grosvenor Hotel, the President, Mr. George Sheridan, in the chair. The reports of the building construction and design classes were read, the prize-winners in the latter class being :—Mr. H. J. Lyons, first prize ; Mr. Charles Powell, second prize. The reports of the sketching and camera club, designing club, and library were also adopted. The following resolution was carried by the meeting :—

"That we, the members of the Architectural Association of Ireland, present at this general meeting, desire to express our satisfaction at the well-merited honour of knighthood conferred upon the President of the Royal Institute of Architects of Ireland, a member of this Association, and we take this opportunity of rendering our warmest congratulations to Sir Thomas Drew."

The President read a valedictory address to the members, in the course of which he reviewed the work of the past session. In every branch of the Association a record had been established, and the new members who had joined numbered eighteen. The total membership stood at 125. As a final word, he would advise architectural students to obtain technical instruction as far as possible, and when the new Dublin Technical Schools were opened in Kevin-street members would have an excellent opportunity of gaining such knowledge. He was perfectly sure that some arrangement could be made whereby the members could avail themselves of the useful classes formed in that institution.—Mr. Kaye Parry, F.R.I.B.A., then took the chair, and Mr. C. H.

Ashworth proposed a vote of thanks to the President for his conduct in the chair, and for the interest he had taken in the affairs of the Association during the past session. The motion was seconded by Mr. J. H. Webb, and carried with acclamation. The ballot list of officers for the new session was then read. The following were declared elected:—President, Mr. F. Batchelor, F.R.I.B.A.; Vice-Presidents, Messrs. M. J. Tighe, C. H. Ashworth; Committee, Messrs. H. Allbury, G. Sheridan, R. C. Orpen, J. Holloway, R. M. Butler, T. E. Hudman, J. H. Pentland, T. Coleman, L. O'Callaghan. Librarian, Mr. J. Geoghegan; Hon. Treasurer, Mr. J. W. Webb; Hon. Secretaries, Messrs. F. G. Hicks, E. W. Bradbury; Hon. Auditors, Messrs. W. Beckett, M. J. Buckley. Mr. R. M. Butler proposed a vote of thanks to the outgoing secretary, Mr. H. Allbury, who, under the by-laws, had to retire at the end of two years. Much of the progress of the past session could be put down to his energy and devotion to the work of the Society. His services, however, were still retained on the committee. Mr. F. G. Hicks having seconded the resolution, it was passed with acclamation. Mr. Allbury, in reply, said that the Association had already surpassed the most sanguine hopes of its promoters, and was rapidly increasing its influence in every direction for the good of the architectural profession owing to the enthusiasm shown by its members.

EDINBURGH ARCHITECTURAL ASSOCIATION.—The Edinburgh Architectural Association had their annual excursion last Saturday, visiting Balmerino Abbey, Bambreich Castle, and Lindores Abbey, by permission of the Hon. Lieutenant-Colonel Stuart Grey, the Earl of Zetland, and Mr. David Speirs, factor. Mr. Hippolyte J. Blanc, R.S.A., acted as leader, and described the ruins, with the assistance of plans showing all the remains able to be deciphered. The day, which was very bright and warm, was concluded by a dinner held in the George Hotel, Newburgh, when a vote of thanks for the permissions to visit, and to Mr. Blanc for acting as leader, was agreed to, on the motion of the President, Mr. Henry F. Kerr, A.R.I.B.A.

APPLICATIONS UNDER THE LONDON BUILDING ACT.

AT the meeting of the Building Act Committee of the London County Council, held on the 28th ult., being the day before the Council adjourned for the Whitsuntide recess, the proceedings were governed by the clause in the order of reference which empowers the Committee at certain seasons to act on behalf of the Council in relation to matters included in the order of reference. Those applications to which consent has been given are granted on certain conditions. Names of applicants are given in brackets. Buildings are new erections unless otherwise stated:—

Erection of Buildings in West Ferry-road, Millwall.

Poplar.—That the resolution of the Council of May 8, 1900, consenting to the erection of a one-story office building on the south side of West Ferry-road, Millwall, be rescinded.—Agreed.

[This item is subject to confirmation by the Council.]

Formation of Streets near Brockley Station, Brockley.

Deptford.—That the time within which the street proposed to be named St. Asaph-road on the Haberdashers' Company's estate, near Brockley Station, was required to be defined by fences or other suitable boundaries and left open for the use of the public as a highway, be extended until January 1, 1901 (Mr. A. H. Kersey and Mr. H. Stock for Mr. R. Kersey and the Worshipful Company of Haberdashers).—Agreed.

Lines of Frontage.

Hammersmith.—An extension to Holy Innocents Church, Paddenswick-road, Hammersmith, at the corner of Dorville-road (Messrs. J. Brooks & Son for the Rev. H. C. Eden).—Consent.

Lewisham.—A church and school on the south-west side of Perry-vale at its junction with Perry-rise (Mr. W. H. Woodroffe for the committee of the Forest Hill Baptist Church).—Consent.

Fulham.—That the application of Mr. T. A Boughton on behalf of the deacons of the Dawes-road Baptist Chapel, for an extension of the period within which the erection of a porch in front of a proposed mission-hall on the north side of Rosaline-road, Fulham, next No. 72, was required to be commenced, be granted.—Agreed.

Lewisham.—Five houses with shops on north-west side of Sydenham-road at the corner of Larkbere-road (Messrs. Bowie & Barratt for Mr. E. Clarke).—Consent.

Lewisham.—Houses with shops on the north side of Sydenham-road, Sydenham, between Silverdale-buildings and Mayow-road (Messrs. J. Edmondson & Son for Mr. J. Edmondson).—Consent.

Norwood.—A house with shop on the west side of St. Gothard-road, West Norwood, at the corner of Auckland Hill (Mr. H. G. Brace for Mr. D. G. Horlock).—Consent.

Woolwich.—Eighteen houses on the north side of Bexley-road, Eltham, eastward of Elderslie-road (Mr. F. G. Logsdail for Mr. A. Cameron Corbett, M.P.)—Consent.

Peckham.—One-story shop on the north side of Hanover Park, Rye-lane, Peckham (Messrs. Jones & Higgins, Limited).—Consent.

Bermondsey.—A building on the north side of Jamaica-road, Bermondsey, between Nos. 63 and 71 (Messrs. Gordon & Gunton for Messrs. Plowman & Co., Limited).—Refused.

Lewisham.—A porch at the billiard-room entrance to the "Spotted Cow" public-house, Hither-green-lane, Lewisham, to abut upon Thornford-road (Mr. L. A. Withall for Mr. T. F. Coles).—Refused.

Lewisham.—A porch in front of a church-hall on the south side of Sandhurst-road, Hither-green, at the corner of Ardgowan-road (Mr. P. A. Robson for the Rev. E. C. B. Philpott and the building committee of St. Andrew's Church).—Refused.

Lewisham.—Buildings on the west side of Lawrie-park-road, Sydenham, and the east side of a private way leading from West-hill to Westwood-road (Mr. F. W. Tarring for Messrs. Tomson, Webley, & Aldridge).—Refused.

Lewisham.—A one-story addition to the parish-hall on the east side of Brookdale-road, Catford, at the corner of Holbeach-road (Mr. A. L. Guy for the vicar and churchwardens of St. Lawrence Church, Catford).—Refused.

Marylebone, East.—A conservatory and two iron covered ways at No. 49, Acacia-road, St. John's Wood, at the corner of Ordnance-road (Messrs. R. H. & H. Kerr for Mr. G. Garet-Charles).—Refused.

Norwood.—A public-hall, one-story shops, and houses with shops on the west side of Norwood-road, West Norwood, between York-road and Harpenden-street (Mr. J. S. Quilter for the freeholders).—Refused.

St. George, Hanover-square.—A one-story addition to No. 27, St. George's-road, South Belgravia, at the corner of Warwick-street (Mr. C. W. Brooks for Mr. P. R. Waller).—Refused.

St. George, Hanover-square.—The retention of a projecting shop-front at No. 227, Regent-street, St. George, Hanover-square (Messrs. Riddell & Co. for Messrs. L. H. & F. J. Goldsoll).—Refused.

Projections.

Strand.—That permission be given to Messrs. Anstiss & Sons to retain for one year a projecting illuminated sign at the third-floor level in front of No. 45, Strand, extending beyond the general line of buildings in that street (Messrs. Wylson & Long for Messrs. Anstiss & Sons).—Agreed.

Bermondsey.—That permission be given to Mr. J. Dannhorn to retain for one year a projecting illuminated sign at the "Surrey Arms" public-house, Surrey-square, Old Kent-road, extending beyond the general line of buildings in Surrey-square (Mr. H. Goodwin for Mr. J. Dannhorn).—Agreed.

St. George, Hanover-square.—A balcony, at the third-floor level, in front of No. 87, Piccadilly, St. George, Hanover-square (Messrs. Cubitt, Nichols, Sons, & Chuter for Mr. G. Lichtenfeld).—Consent.

St. George, Hanover-square.—Retention of a projecting iron and glass fernery over the porch in front of No. 114, Park-street, Grosvenor-square (Mr. B. Slade).—Consent.

Lewisham.—The retention of a wood and glass pent roof over the entrance to the coach-house at No. 100, West Hill-road, Sydenham, abutting on Hillcrest-road (Mr. J. Stewart for Mr. G. Kenning). Refused.

Paddington, North.—A projecting wooden shop front to No. 1, Mozart-street, Paddington (Mr. E. Vigers for Messrs. Seaman & Guest).—Refused.

Width of Way.

Finsbury, Central.—The erection in front of a proposed factory on the site of No. 28, St. John's-lane, Clerkenwell, of a forecourt boundary or fence within the prescribed distance from the centre of St. John's-lane (Mr. H. D. Searles-Wood for Messrs. Fenner, Appleton, & Co.).—Consent.

Hackney, Central.—A two-story workshop at the rear of No. 33, Middleton-road, Hackney, with the forecourt boundary or fence at less than the prescribed distance from the centre of Mayfield-road (Mr. A. E. Maskall).—Refused.

Space at Rear.

Lewisham.—A modification of the provisions of Part V. of the Act with regard to open spaces about buildings, so far as relates to the proposed erection of a two-story stable and coach-house, with living-rooms on the first floor, in a garden at the rear of Tower House, Brockley Park, Lewisham, without an open space at the rear (Mr. P. Cornish for Mr. E. Masters).—Consent.

Wandsworth.—A modification of the provisions of Section 41 (1) (vi.) of the Act with regard to open spaces about buildings, so far as relates to the proposed erection of two dwelling-houses on the north-west side of Lewin-road, Streatham, at the corner of Ellison-road, with an irregular space at the rear (Mr. A. Knapman).—Consent.

Westminster.—That Mr. A. Blackford be informed, in reply to his request on behalf of Mr. W. R. Rickard that the Council should declare that a strip of land at the rear of three blocks of buildings at St. James-court, Buckingham-gate, being a portion of the playground of the United Westminster School, is secured to the satisfaction of the Council, by covenant, as an open space, that, subject to the Council's solicitor being satisfied as to the due execution of the provisional agreement between the owners of St. James-court and the United Westminster Schools, providing that the governors of the schools shall not at any time build on the strip of land on the eastern side of the school playground beyond a line drawn parallel to, and 32 ft. from, the face of blocks E, F, and G, St. James-court, the Council is of opinion that the maintenance of such land as an open space is permanently secured by covenant in accordance with Section 41 (1) (iii.) (*h*) of the London Building Act, 1894.—Agreed.

Whitechapel.—A modification of the provisions of Section 41 (1) (vi.) of the Act with regard to open spaces about buildings, so far as relates to the proposed erection of a mission-hall, with library, class-room, and dwelling-rooms over, on the site of No. 189, Whitechapel-road, with an irregular space at the rear (Mr. W. A. Pite for the Rev. D. Baron).—Consent.

Dulwich.—A modification of the provisions of Section 41 of the Act with regard to open spaces about buildings, so far as relates to the proposed erection of four shops, with artisans' dwellings on the upper floors, on the south side of Orpheus-street, Denmark-hill, Camberwell, with an irregular space at the rear (Mr. E. J. Strevens for the Star Omnibus Company, Limited).—Refused.

Lines of Frontage and Width of Way.

Hampstead.—A studio at Manor Lodge, Vale of Health, Hampstead (Mr. C. H. Saunders for Miss M. Carter).—Refused.

St. Pancras, East.—One-story additions to the flank of No. 86, King's-road, to abut upon Camden-road, and a two-story building at the rear of Nos. 86 and 88, King's-road, to abut upon Rochester-place (Messrs. F. Taperell & Haase for Mr. P. Barnett).—Refused.

Projections and Construction of Bridges.

Rotherhithe.—An iron gangway across Rotherhithe-street, Rotherhithe, to connect granaries on opposite sides of that street (Messrs. W. A. Crips & Sons for Messrs. R. T. Smythe & Co.).—Consent.

Bow and Bromley.—Four iron gangways across Fawe-street, Poplar, to connect warehouses on the opposite sides of that street (Mr. Max Clarke for Messrs. Spratts' Patent, Limited).—Consent.

Line of Frontage, Height of Building, and Openings in Party-Walls.

Hackney, North.—The erection, to an advanced line of frontage, of a three-story warehouse on the north side of Barrett's-grove, Stoke Newington-road, Stoke Newington, at the corner of Cressington-road, with the flank wall to exceed in height the width of Cressington-road, and with openings in the party wall on the north side of the building to exceed in width the dimensions specified in section 77 of the Act (Mr. T. J. Wetherall for Messrs. E. Austin & Sons).—Refused.

Formation of Streets.

Fulham.—That an order be issued to Mr. J. P. Flew, jun., sanctioning the formation or laying out of a new street for carriage traffic in continuation of Waldemar-avenue, Fulham, to lead into Colehill-lane, and the widening in connexion therewith of a portion of Colehill-lane. That the name Waldemar-avenue (in continuation) be approved for the new street.—Agreed.

Hackney, South.—That an order be issued to Messrs. A. H. & A. E. Simpson refusing to sanction the formation or laying out of new streets for carriage traffic on the Glyn estate, on the east side of Daubeny-road, Homerton.—Agreed.

Lewisham.—That an order be issued to Mr. W. J. Cooke sanctioning the formation or laying-out of a new street for carriage traffic to lead from George-lane to Brownhill-road, Catford (for the School Board for London). That the name Stainton-road be approved for the new street.—Agreed.

Lewisham.—That an order be issued to Mr. F. W. Tarring refusing to sanction the adaptation of a portion of a private way leading from West-hill to Westwood-road, Sydenham, as a street for carriage traffic, and the formation or laying out of a new street for carriage traffic to lead from Lawrie Park-road to such private way (for Messrs. Tomson, Webley, & Aldridge).—Agreed.

Wandsworth.—That an order be issued to Mr. W. Rivett-Carnac refusing to sanction the formation or laying out of a new street for carriage traffic to lead from Gwendolen-avenue to Howard's-lane, Putney (for Mr. J. Temple Leader).—Agreed.

Conversion of Buildings.

Dulwich.—An addition on the north side of Wren-cottage, Wren-road, Camberwell (Mr. E. J. Strevens for the Star Omnibus Company, Limited).—Consent.

Cubical Extent.

Westminster.—A deviation from the plans approved on March 28, 1899, for the erection of two ale-stores at the Stag Brewery, Brewer-street, Pimlico, so far as relates to the erection of one of such ale-stores only (Messrs. J. G. Worssam & Son for Messrs. Watney, Combe, Reid, & Co., Limited).—Consent.

Greenwich.—The erection on the west side of Blackwall-lane, Greenwich, of an ice factory, with a tank-house, to exceed in extent 250,000, but not 450,000, cubic feet, and to be used only for the purposes of the manufacture of ice (Messrs. Mather & Graves for the North Pole Ice and Refrigerator Company, Limited).—Consent.

Poplar.—A variation from the plans sanctioned by the Council on February 6, 1900, for the erection and construction of a brick and iron erecting shop for machinery for steam vessels at Blackwall Ironworks, Stewart-street, Cubitt Town, Poplar, so far as relates to an alteration in the construction of the inclosure on the north side of the erecting shop (Messrs. J. Stewart & Son).—Consent.

Separation of Buildings.

St. George, Hanover-square.—The construction as a separation between the trade and dwelling-house portions of the premises, of iron and concrete partitions, instead of 9 in. brick walls, to inclose the staircase at No. 60, Conduit-street, St. George, Hanover-square (Mr. F. T. Verity for Messrs. Lewis & Allenby, Limited).—Consent.

Illustrations.

PART OF ST. MARK'S, VENICE.

THIS is a drawing of a portion of the front of St. Mark's, Venice, made on the spot by Mr. W. Curtis Green. Views of St. Mark's as a whole are, of course, legion, but illustrations of portions of the building in detail are not so common, and this one may therefore be of interest.

The portion shown here is on the south side of the cathedral, the large arched window being that of the baptistry. In front stand the two square white marble columns, obviously of Byzantine work, part of the "loot" of some one of the Venetian doges. Of their history, or of that of the curious group of porphyry statues on the right of the drawing, nothing seems to be known.

The smaller shafts present a combination of varied colour of which it would be difficult to give an adequate reproduction even in painting, and which, in a black-and-white drawing, can only be left to the imagination.

HOUSE AT LEAMINGTON.

THIS house, the entrance and garden fronts of which are here illustrated, has lately been built on the Kenilworth-road, near Leamington, from designs by Mr. R. A. Briggs, of London.

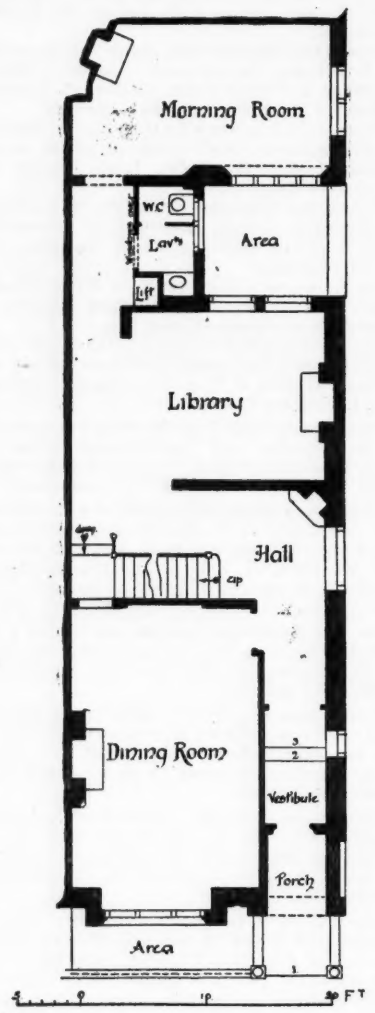
The walls are faced with red local bricks, and the dressings are of Penkridge stone. The wood window frames, barge boards, and half timber work are of teak. The roofs are covered with tiles from the Broseley Tilery Company. The hall, parlour, and dining-room are panelled with oak.

The contractor was Mr. C. H. Barber, of Coventry, and the clerk of works Mr. A. H. Hodnett. The carving throughout was executed by Messrs. H. H. Martyn & Co, of Cheltenham.

No. 49, HARLEY STREET.

THIS illustration is from the reproduction of a photograph specially taken for a work published in Berlin entitled "Neubauten in London."

The house was planned for a doctor in a doctor's street, and although the site is cramped, the necessary amount of accommodation has been obtained on the ground floor (see plan),



No. 49, Harley-street. Plan.

and the central staircase is amply lighted from windows on each landing facing the side street.

The builder was Mr. W. Willett, of Sloane-square, and the architect Mr. F. M. Elgood.

No. 31, OLD BOND-STREET.

THIS building consists of a shop and business premises above, and is built of Portland stone. The figure subjects on the façade, representing the four seasons, were carved by Messrs. Farmer & Brindley from models by Mons. Chavaliaud. The iron grille in the third story was made by Mr. E. Goddard, of Vauxhall. Messrs. Matthews Bros. were the contractors, and Mr. Beresford Pite the architect.

BOOKS RECEIVED.

PROCEEDINGS OF THE THIRTY-THIRD ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS: 1899. (Gibson Bros., Washington, U.S.A.)

RECLAMATION OF LAND FROM TIDAL WATERS. By Alexander Beazeley, M.Inst.C.E. (Crosby Lockwood & Son. 10s. 6d.)

A PRACTICAL GUIDE FOR SANITARY INSPECTORS. By Frank C. Stockman. (Butterworth & Co.)

THE RAILWAY RATES STANDARD TIMBER MEASURER. By E. A. P. Burt. (W. Rider & Son.)

THE INCORPORATED GAS INSTITUTE. — The thirty-seventh annual general meeting will be held on the 12th inst. (10.30 a.m.) and 13th (10 a.m.), at the Royal United Service Institution, London, the President, Mr. E. Herbert Stevenson, M.Inst.C.E., in the chair. The following papers will be read and discussed:—"Automatic Stoking and Inclined Retorts," by Mr. W. R. Chester, of Nottingham; "Roofs for Retort Houses," by Mr. A. T. Walmisley, of London; "Some Disputed Points amongst Gas and Water Experts," by Mr. J. Wilkinson, of Drighlington; and "Naphthalene from the Retort to the Point of Deposition," by Mr. William Young, of Peebles. On Wednesday morning a lecture on the "New Gas" will be delivered by Mr. W. H. Y. Webber.

Correspondence.

To the Editor of THE BUILDER.

ARCHITECTS AND BOROUGH SURVEYORS.

SIR,—Many of your readers will be, no doubt, aware of the subjects for discussion at the Friday meeting of the Architectural Congress of 1900, which will commence on the 18th inst. In addition to the paper on "Responsibility of Local Authorities in respect of Building By-laws," three resolutions will be moved, namely:—

> "1. That, in the interests of architecture, it is inexpedient that buildings of a municipal character be designed and erected by engineers or surveyors having no architectural training.
>
> 2. That, as a matter of sound finance and in the interest of ratepayers, it is desirable that the duties of Borough Engineer and Surveyor should not include work of an architectural character.
>
> 3. That it is detrimental to the interests of the architectural profession that buildings of a municipal character should be designed and erected by the Borough Engineer and Surveyor."

The subjects as they present themselves to me tend to widen the breach between two professions which are somewhat allied in character. It is therefore to be regretted that the Royal Institute of British Architects have included these resolutions among their subjects for discussion. The debate cannot possibly result in any tangible alteration of the existing state of things, for the operations of municipal affairs cannot be controlled by the resolutions of any single body or profession, however powerful they may be. A constitutional form of local government is too well-established to be thus set aside.

So much for the question on broad lines. Now in reference to No. 1. It is somewhat inexplicable why the movers should make a distinction in buildings of a municipal character. If this class of building is important, should it not also extend to all buildings, both public and private, since those of a private description are in greater abundance, and often form quite as important a feature in street architecture as municipal buildings? The resolution is, in my opinion, too much of the nature of professional enterprise, although aiming at the elevation of the art of architecture. This will be clearly seen by a reference to resolution No. 3, for here it is expressly stated as being detrimental to the "interests of the architectural profession." It is a well-known fact that a Borough Engineer has included in his training a study of architecture as deep in its practical form as any architect, although the artistic elements, so far as history and style, do not always rank equally with the question of plan and construction. I agree with the movers when it is a question whether the official is to design the Town Hall or the municipal offices, for those buildings are generally undertaken by the architectural profession; but municipal buildings also include hospitals, workshops, buildings for the reception of electric light installations and dust destructors, plant, &c.; and, according to the resolutions, these are to be taken away from the Borough Surveyor, and while that official may be quite capable of carrying out the work the ratepayers are to be put to the expense of a commission of 5 per cent., a proceeding which cannot be said to be studying the ratepayers' already hard-pressed condition. The buildings of a utilitarian class connected with municipal work are a somewhat short list, but these are followed closely by almost every Borough Engineer, and are made a special study of. It is doubtful whether any outside architect, engaged in the generalities of his profession, is so well adapted to the special work of meeting a Town Council's wishes as the Borough Surveyor himself.

Another point I have to mention is that of the ratepayers' interest. My remarks here are of a somewhat delicate nature, and I hardly like to put them on paper, as one is apt to be misunderstood. One thing, however, gives me confidence, and that is that I am myself an Associate of the Institute, and so do not look at the profession as an outsider. We all know that the Institute has always laid it down as one of its unswerving laws that the illicit commission is a heinous offence to moral and professional honour; and every right-minded architect, whether a member of the Institute or not, would uphold his integrity in this respect most vigorously. It is also well known that there are certain men, unworthy of, although called by, the name of "architect," to whom such principles do not apply. Now, according to the terms of the resolution it is quite within the bounds of possibility that such men could be deputed to carry out works of a municipal character, possibly assisted by influence being brought to bear upon a council or committee, and the attendant evils are of such a class as certainly could not be said to be to the ratepayers' interests. I do not for one moment profess to say that Borough Engineers and Surveyors are any better than other men, but granting that they are as good, I maintain that there is an additional security in favour of the ratepayers, for the official's position would be at stake should any suspicion arise against him, and this therefore is a reason for allowing the surveyor to do his own buildings.

I am not at all sure whether the resolutions do

not cast some sort of a slur upon engineers and surveyors, inferentially suggesting a degree of incompetence.

The works of Borough Engineers up to the present, to my mind, are sufficiently creditable, and, as far as I can see, do not call for the resolutions mentioned. It is not fair to argue with a retort, but it might be as well to point out that the majority of architects consider themselves quite competent to design certain matters which come within the province of a civil engineer, matters entirely of a constructive nature, such as roof work, and many instances where calculations of strains and stresses form a fundamental part.

It would be interesting to know whether it is proposed to appoint a commission to inquire into the pro's and con.'s of the engineer and surveyor, to ascertain whether the subject of architecture formed a part of his curriculum, or what other means are intended for carrying into effect the resolutions should they be passed at the meeting on June 22.

R. J. ANGEL, Assoc.-M.Inst.C.E.; A.R.I.B.A.

*** See our Note on page 560.—ED.

PUBLIC HEALTH (LONDON) ACT, 1891.

SIR,—May I draw your attention to Ch. 76 Sec. 5 of the above Act, which appears to require radical alteration in some of its sub-sections?

An owner of a number of well-built cottages in the Ladywell district, finding his property being damaged by undesirable tenants, and experiencing difficulty in evicting them, unwisely applied to the local authorities to issue a "closing order." The tenants under this were duly ejected, and the owner then consulted me, with the result that the property was thoroughly redrained and put into substantial and decorative repair at a large expense, making it approximately in accordance with the requirements of the London Building Act, 1894.

On application to the magistrate for a recision order he refused to act without the consent of the local authorities. There is no word in the Act permitting him to take this stand, but simply an inference that he judge the case sitting as a Petty Sessional Court, and my client being a poor man shrinks from facing the expenses of a mandamus to compel him.

The local authorities refuse their consent, and give no reason for their action. The Act permits them to decline giving any specification or information as to what they consider necessary to render the premises habitable, thus making them masters of a situation frequently created to further their own ends, which are not always above reproach.

It would appear therefore that the following amendments are urgently needed:—(1) That there should be served with the closing order a specification of what the local authorities consider necessary to put the property into habitable repair; (2) that if they consider it impossible to make the property habitable, the magistrate should be compelled to judge the case on its merits without previous reference to them.

JOHN W. RHODES.

SOLID FLOORS.

SIR,—Owing to the length of time (not less than a month) that coke breeze concrete requires to be left to dry before floor-boards can be nailed down to it, I have sometimes found it impossible to use coke breeze, and have had to forego the advantages of a solid floor.

In some alterations to a large house that I carried out about two years ago it was absolutely necessary to have a solid floor in the basement, and, knowing that it would be impossible—owing to our limited time for the completion of the work—to lay the coke breeze concrete *in situ*, the first thing I got the contractor to do was to make coke breeze concrete slabs 2½ in. thick, and about the size of ordinary paving stones. These were allowed to dry in his shed, and about six weeks after they were made they were laid in cement on a 6-in. bed of Portland cement concrete, the floor boards being immediately nailed down to them.

I saw this floor yesterday, and as it is a complete success (the floor boards have not buckled in the least) I would suggest that contractors or manufacturers might do worse than keep a stock of 2½-in. coke breeze concrete slabs. I feel sure there would be a good demand for them.

I may say that in the particular case I have mentioned wood-block flooring was objected to.

M.

GORDON MEMORIAL FOR ABERDEEN.—The Town Council of Aberdeen have now fixed a site for this memorial in Duthie Park, near the Allenvale entrance. The monument, which is intended to commemorate comrades who fell in the Indian frontier campaign, has been subscribed for by the officers and men of the 1st Battalion Gordon Highlanders. It consists of a finely-hammered, triangular, Kemnay granite shaft, with triple mask on top, surmounted by a bronze figure of Victory, 4 ft. high, from the studio of Mr. Pomeroy, sculptor, London. The whole will stand on a granite platform and two bases, and on two sides of the shaft there will be a suitable inscription. The granite work, which was designed by Mr. W. Kelly, architect, Aberdeen, has been carried out by Messrs. Henderson & Webster, granite merchants, Aberdeen, and is 16 ft. in height.

The Student's Column.

DETAILS OF STRUCTURAL IRON AND STEEL.

22.—SHEARING FORCE.

SHEARING force in a beam tends to cut the beam asunder, and is developed by the downward action of the load and the upward reaction of the support or supports. Consequently, the maximum shearing force F must be at one or at both of the abutments of a beam supported in the ordinary manner, and at one or more of the piers of a continuous beam. The rules given in Chapter 20 for finding the values of the supporting forces P and Q at the abutments also serve to indicate the maximum shearing forces. As in the case of bending moments, it is convenient to differentiate between positive and negative shearing force. The diagrams contained in figs. 211 to 221 (*ante*) conform with this distinction, and it will be seen that in every case the shearing force in tons, drawn for the sake of convenience to the scale of foot-tons, is equal to the supporting force P or Q at the corresponding abutment. A clearly defined connexion exists, and is readily traceable, between bending moment and shearing force. Thus, taking the supporting force P and the maximum shearing force F, we have P = F. In the case of a cantilever, W = P = F, and the maximum bending moment M = Wl. Therefore M = Fl and F = M ÷ l. Referring to the diagrams in figs. 211 to 221, it will be noticed that whenever the load is *concentrated*, shearing force is constant throughout each segment into which the beam is divided by the transverse section, and also that a sudden change of force appears to take place in each beam at the point where the load is applied. This does not mean that two different values exist at a single section of the beam, for there can be but one value at each place under any given system of loading. The abnormal condition apparently indicated is entirely owing to the assumption that the load is applied at a point, whereas in practice any load, however concentrated it may be, must occupy some finite length over which the transition from positive to negative shearing force is gradually manifested. Referring again to the diagrams, we see that when the load is uniformly distributed, the positive and negative shearing forces gradually diminish from the abutments to a point immediately below the centre of gravity of the load in the case of a beam supported at each end, and to the free end of the beam in the case of a cantilever. When beams with fixed ends (figs. 219,220, p. 547 *ante*) and continuous beams (fig. 221), are examined, it will be observed that the portion which behaves as a beam on two supports is also subject to shearing forces diminishing from the points of contrary flexure to the centre. The lines denoting this decrease of force towards the centre, or increase of force away from the centre, serve, when continued, to delineate the shearing force of the end portions of the beam. These end portions, as we remarked in the last chapter, are practically cantilevers, although, as they have to carry the central load as well as their own, the minimum shearing forces at the points of contrary flexure do not fall to zero, but to the intensity corresponding with that at the ends of the central portion. Similar analytical consideration will enable the student to ascertain the extent of the shearing forces in beams such as those drawn in figs. 216 and 217. The rules by which the decrease of shearing force is found are as follows:—

Let w = unit weight per foot; then at any section of the distance x from the support of a uniformly loaded cantilever, the shearing force, $F_x = w(l - x)$.

Ex. 1.—Assuming the cantilever, as in fig. 212, to be of 6 ft. length, the total load W to be 2 tons, and the distance x to be 3 ft.; then the unit weight per foot, $w = (2 \div 6) = .33$. Hence the shearing force, $F_x = .33(6 - 3) = 1$ ton.

Ex. 2.—If the point x, in the same beam, under the same load as that stated above, be 6 ft., then the value of $F_x = .33(6 - 6) = 0$.

In a beam supported at both ends and uniformly loaded, the shearing force at any section of the distance x from either abutment is $F_x = w(\frac{1}{2}l - x)$. Taking the left abutment as the starting point, we say that F_x is positive when x is less than $\frac{1}{2}l$, and negative when x is greater than $\frac{1}{2}l$.

Ex. 3.—If the point x, in the beam drawn in fig. 214, be 2 ft. distant from the left-hand abutment, the span being 6 ft. and the unit weight .33 ton, then the shearing force $F_x = .33(3 - 2) = .33$ ton.

Ex. 2.—In the same beam, if $x = \frac{1}{2}l$, the value of $F_x = .33(3 - 3) = 0$.

In the majority of cases the maximum shearing force is all that need be studied, but there are some structures in connexion with which it is desirable that the shearing force throughout the length of a beam should be known and duly considered.

Summing up the points hitherto discussed in relation to the strength of beams, we find (1) that the manner of loading affects the design of the supporting walls, columns, and foundations; (2) that it exercises a marked influence upon the development of bending moment, which is really a multiplication of the direct force of the load; and (3) that it is responsible for different manifestations of shearing force from case to case. These three questions of external loads, bending moments, and shearing forces are, of course, applicable to all beams, whatever be the material of which they are composed. Before passing on to the subject of internal stresses resulting from bending moment and shearing force we may advantageously refer once more to figs. 211 to 221. If the student will consider the diagrams of bending moments there given, he will see how suggestive is each figure of the shape most suitable for the proper support of the load, although, in practice, the exact dimensions must depend upon the strength of the material and the weight to be carried. In these diagrams may be traced the outlines of many familiar engineering and architectural details, the accuracy of whose general proportions could be gauged by their degree of correspondence with graphical diagrams representing combinations of bending moments and shearing forces.

Several well-known books of reference contain plans and elevations of beams of uniform strength in each of which the cross section is varied according to the bending moment of the load. The drawings in question appear to be copied from one book to another, but in most cases they are inaccurate and the descriptive matter with which they are accompanied is misleading, for the effect of shearing force is not included, and the authors omit to explain this essential fact. In fig. 224 we reproduce one of these illustrations, supposed to represent a beam of uniform breadth and strength. Here it will be seen that the figure tapers at each end to zero, but as shearing force F = M ÷ l, we must add sufficient depth to enable the beam to resist that force. Consequently, the correct proportions of the beam would be as shown in fig. 225.

INTERNAL STRESSES.

Transverse or bending stress is directly due to bending moment, and, as pointed out in Chapter 5, it is composed of tensile and compressive stresses. Take the case of a beam supported at both ends and loaded uniformly (fig. 214 *ante*). Concurrently with the bending moment produced there must be deflection, causing the upper part of the beam to be compressed and the lower part to be stretched. Thus we have compressive stress and tensile stress, the amounts of which at any section are proportionate to the amount of the bending moment. As compressive stress consists of push, and tensile stress of pull, there must be a neutral axis in the beam where the opposing forces are reduced to zero. Fig. 222 shows part of a beam, and the neutral axis is indicated by a full line passing through the centre of gravity of the section. Let the lines $a\,a$, $b\,b$ enclose a portion of the beam before bending, and let the lines $a\,a$, $c\,c$ enclose the same portion after bending; then, denoting the point of intersection of the lines $b\,b$ and $c\,c$ by the letter o, the triangles $b\,o\,c$ and $c\,o\,b$ represent areas of compression and tension respectively, each of equal value and together forming a *couple*. Turning now to fig. 223 (*ante*), we have part of a beam in which deflection is much exaggerated, so that the figures representing stresses may be of intelligible dimensions. At the middle of the beam, where bending moment reaches a maximum, the stresses are greater than those indicated at two adjacent points, and very much greater than those suggested by the pair of triangles to the extreme left, which look almost like a single line of uniform thickness. At the ends of the beam not shown in the figure, where bending moment becomes a minimum, the stresses, of course, cease to exist. Several *couples* are

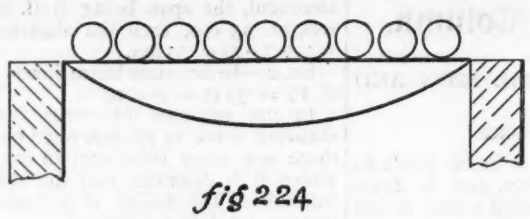


fig 224

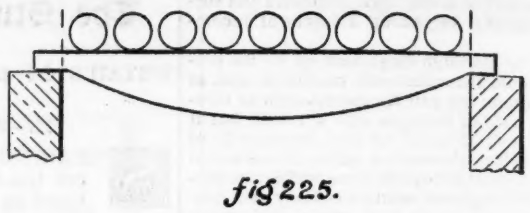


fig 225.

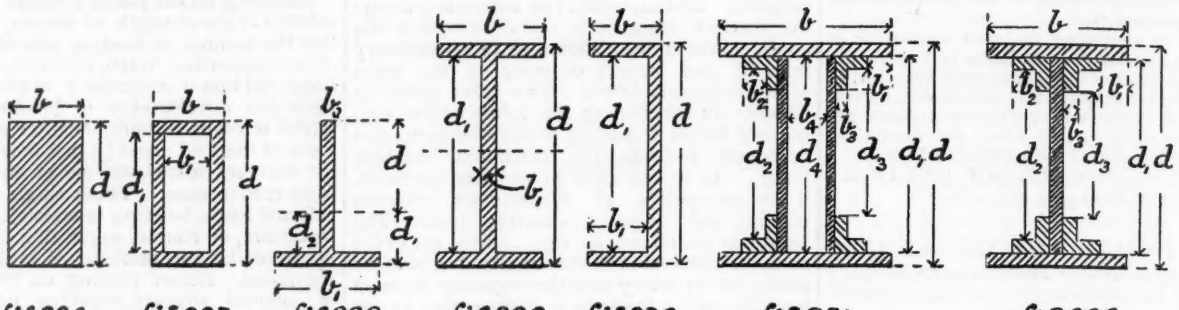


fig 226 fig 227. fig 228. fig 229. fig 230 fig 231 fig 232.

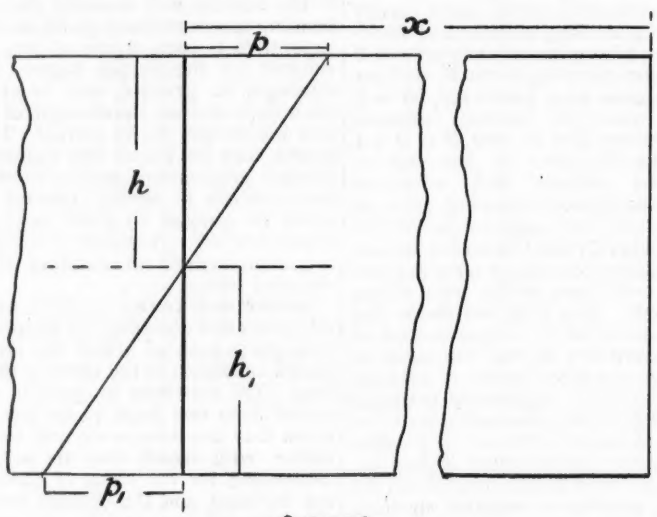


fig 233.

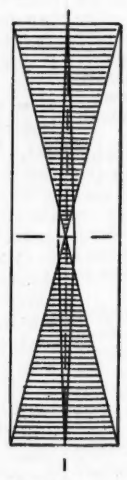


fig 234.

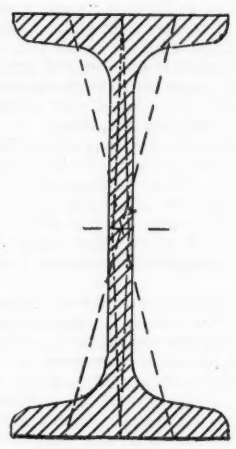


fig 235.

Illustrations to Student's Column.

drawn at the middle of the beam with the object of showing the overlapping areas of compressive stress due to shortening of the upper part of the beam, and the equivalent areas of tensile stress caused by lengthening of the lower part of the beam. The neutral axis, it should be observed, retains its original length, and is therefore exposed to no stress of any kind. Within the elastic limit the stresses and their correlative strains are distributed in the uniformly varying manner implied by the triangles *b o c*, *c o b* (fig. 222), but when the beam is overstrained, and if the elastic limit be higher for compression than for tension, the neutral axis may assume a new position, as shown by a dotted line in the figure, and the stress diagrams will probably take irregular forms such as those enclosed by the triangles *b e d*, *d c b*.

Inasmuch as compressive stress results from shortening of the parts above the unaltered neutral axis, and as tensile stress is due to lengthening of the parts below the neutral axis, it is evident that the stress on any longitudinal layer of the beam must be proportionate to the distance of the layer from the neutral axis. The incidence of stress is consequently demonstrable by the application of geometrical principles. For the purposes of our present enquiry, the following method is more suitable. Let p denote the intensity of compressive fibre stress, and p^1 the intensity of tensile fibre stress. Then at any transverse section x of a beam, and at any distance h from the neutral axis—

$$p = Mh \div I \text{ and } p^1 = Mh \div I.$$

Here M = bending moment at the section x, and I = moment of inertia of the beam, assuming it to be of uniform section as is usually the case. Rules were given in Chapter 16, for finding the horizontal or least moments of inertia for various sections used as columns, but the moments then considered were those in respect of the axis about which bending was most likely to occur. A beam is almost invariably disposed so that its greatest strength is opposed to bending moment. Therefore the vertical or greatest moment of inertia is appropriately used in calculations. Table XLVIII. contains rules for ascertaining the greatest moments of inertia for various sections of beams, and fig. 233 is explanatory of the equations stated above for the determination of stress intensity.

Table XLVIII.—Vertical or Greatest Moments of Inertia of Beams.

Reference.	Form.	Value of I.
Fig. 226	Solid rectangle .	$bd^3 \div 12$
,, 227	Hollow ,, .	$(bd^3 - b_1d_1^3) \div 12$
,, 228	T-section	$(bd^3 + b_1d_1^3 - (b_1 - b)d_2^3) \div 3$
,, 229	Simple I-section	$(bd^3 - (b - b_1)d_1^3) \div 12$
,, 230	Channel ,,	$(bd^3 - b_1d_1^3) \div 12$
,, 231	Compound Girder	$(bd^3 - (2b_1d_1^3 + 2b_2d_2^3 + 2b_3d_3^3 + 2b_4d_4^3) \div 12$
232	CompoundI-section	$(bd^3 - (2b_1d_1^3 + 2b_2d_2^3 + 2b_3d_3^3) \div 12$

The values of I for square, cruciform, and circular sections are the same as those in Table XLI.

A consideration of the foregoing statement, perhaps aided by a few experimental calculations, will serve to indicate, though not completely, what forms of beam section are good and what are bad. For instance, as the fibres at the top and bottom surfaces suffer the most severe strain, whilst those near the neutral axis suffer very little, it is evident that any solid beam of rectangular section must contain a proportionately large quantity of absolutely useless material. A solid beam of circular section, having a still greater proportion of its material concentrated near the neutral axis, would be much more wasteful than a rectangular beam. The advantage of a deep and narrow rectangular beam over one of square section becomes obvious when we consider that when the area is constant the stress for a given bending moment varies inversely as I, the governing factor in which is depth. The disadvantageous nature of solid beams can be in no way modified by adopting sections of uniform strength such as those already mentioned, for these refer only to variations of bending moments from point to point, and not to the distribution of stresses over transverse sections. In order that the form may be suitable for the resistance of compressive and tensile stresses developed by bending moment, the material should be concentrated at the places where stress intensity is greatest. Therefore a flanged beam of I-section, having the bulk of the material at a distance from the neutral axis, is to be recommended. Part of the bending moment falls upon the web, but the bulk is taken by the flanges, one of which is in compression and the other in tension, and in well-designed beams the stress intensity at any given section is approximately uniform over the whole of each flange at that section. In every case, the sectional areas of the compression and tension flanges should be inversely proportional to the compressive and tensile strength of the material. Beams of wrought iron and steel have flanges of equal sectional area, because F_c is approximately equal to F_t; but cast iron beams, including members called by other names though really constituting beams, must be differently proportioned. For cast iron F_c has an average value of 50 tons, and F_t an average value of 8 tons; therefore the ratio 6.25 : 1 governs the relative areas of the compression and tension flanges.

Before we can fully realise the correct theoretical proportions of a beam it is necessary to know in what manner the distribution of shearing stress takes place over the section. In a longitudinal section shearing stress varies from point to point with the shearing force; and in any cross-section the intensity of shear-

ing stress varies from the neutral axis to the top and bottom surfaces, as may be determined by the following equation: Let F, denote the whole shearing stress at any section; A, the area of that part of the section under consideration; h, the distance of the centre of gravity of the area A from the neutral axis; b, the breadth of the area A; I, the moment of inertia of the whole section; and q, the intensity of fibre-stress. Then $q = (F A h) \div (b I)$.

This rule shows that q attains its maximum value at the neutral axis, and falls to zero at the top and bottom of the section. In a beam of rectangular section the maximum value of q is one and a half times the mean intensity, but in a properly designed I-beam it will be found that q is approximately uniform throughout the web, whilst very little shearing stress is experienced in the flanges owing to their much greater width and greater distance from the neutral axis.

We have already shown that part of the bending stress in a beam of I-section must necessarily be resisted by the web, therefore the strength of this part must be sufficient to withstand the combined effect of bending and shearing stress, the former of which increases as the flanges are approached. Hence the web should be additionally strengthened in such regions, and, moreover, it must in no part be too thin to resist buckling by reason of compressive stresses.

Fig. 234 is a sketch of a rectangular beam where bending stress is indicated by shaded triangles, shearing stress by narrow triangles in the centre, and waste material by the unshaded parts. Fig. 235 shows an I-beam to which the stress areas from fig. 234 are applied. Both of these diagrams are purely hypothetical, but they show that the I-section fairly complies with the assumed conditions, the only parts where strength is lacking being the ends of the web adjoining the flanges.

If a beam were designed in strict accordance with the principles we have now very briefly reviewed, it would present the following characteristics:—

1. Breadth and depth throughout the length would be proportionate to variations of bending and shearing stress from point to point.

2. The form of cross-section would diminish towards the neutral axis until the maximum thickness at the centre became little more than that sufficient for the resistance of shearing stress.

Features such as these are to some extent evidenced in large girders employed on important engineering works, but in ordinary structures beams are usually of uniform section, more or less preserving the essential qualities of the I-beam, which we have seen conforms to a very considerable degree with the conditions necessary for strength and economy.

Correction.—On p. 546, instead of W = unit-weight per foot, read w = unit-weight per foot; in Ex. 2, instead of Wl^2_x, read wl^2_x; in Ex. 4, instead of $M = Wx \div 2(l-x)$ read $M_x = wx \div 2(l-x)$, and instead of $(Wl^2 \div 8) = Wl \div 8)$ read $(wl^2 \div 8) = (Wl \div 8)$.

OBITUARY.

MR. CHARLES BARRY.—We announce with much regret the death, at Worthing, on Saturday last, in his seventy-sixth year, of Mr. Charles Barry, F.R.I.B.A., F.S.I., and F.S.A., of Stanley House, Forest Hill, and Parliament Mansions, Westminster. Mr. Barry was the eldest son of the late Sir Charles Barry. On quitting Sevenoaks Grammar School he entered his father's offices at Westminster, where he served his articles, and acted as assistant to his father during some years at the time of the rebuilding of the Houses of Parliament. When about twenty-six years of age he began to practise on his own account, and after a brief interval entered into partnership with Robert R. Banks, who had been one of Sir Charles' principal assistants, and who died in 1872. In 1850 the plans and designs sent in by Messrs. Banks & Barry for the proposed Foreign Offices were placed second by the assessors for the competition, those submitted by Sir Gilbert Scott being placed third upon that occasion. The firm were the architects of Holy Trinity Church, Barking-road (the schools being by Sir Charles Barry); St. Mary, Charterhouse, Church, in Playhouse-yard, Golden-lane (1867-8); and of the new Royal Academy and other buildings on the Burlington House site, which were illustrated in our columns of March 25, 1871. In conjunction with Mr. P. P. Baly, an engineer, Mr. Barry prepared the plans and designs for the University Observatory at Oxford; and, in conjunction with the late Mr. J. Edmeston, those for the new chancel of St. Peter's, Bayswater, in Kensington Park, W. (1880). In 1858 Mr. Charles Barry was appointed architect and surveyor to the Dulwich (Alleyn's College) Estate. Upon, and in the near neighbourhood of, that property he built several churches, including the Presbyterian Church, North Dulwich, erected at a cost of about 5,400*l.*; Holy Trinity, Tulse Hill (1856); St. Stephen's, South Dulwich (1868); and St. Peter's, Dulwich (1873). Of his designs for the new buildings of Dulwich College (the School) we published a view of the interior of the great hall on April 16, 1870, and a view, with plans, on July 18, 1868. Some others of his architectural works have been illustrated from time to time in the pages of the *Builder*, amongst them being school buildings for the London School Board, in Winchester-street, Finsbury (December 12, 1872); a fountain at Dulwich in memory of Dr. George Webster (September 15, 1877); the rebuilding of the central portion of Clumber House, after the fire, for the Duke of Newcastle (June 26, 1880, with plans); the roof over the inner quadrangle of the Royal Exchange (October 13, 1833); a house, "Hernbrook," erected, at a cost of 5,720*l.*, at Horsham for Mr. W. B. Sandeman (November 10, 1888); the "Jubilee" wing (in Towys-place) of the Children's Hospital, Great Ormonde-street, since enlarged (February 1, 1890); and the Institute of Civil Engineers, erected, at a cost of about 60,000*l.*, upon the sites of Nos. 24-5-6, Great George-street, Westminster (June 22, 1895). In 1889 Mr. Charles Barry was appointed by the Committee of the Travellers' Club as superintending architect for the carrying-out of some general works, alterations, repairs, and decorative painting, together with a reconstruction of the system of drainage, and the sanitary equipment of their club house in Pall Mall; in 1892 he made some extensive additions and alterations at the Shoreditch Town Hall. He was also the architect of many country seats and mansions—the list comprises Bylaugh Hall, Norfolk, and "Stevenstone," North Devon; and of the County of Middlesex Industrial School at Feltham. Of Mr. Charles Barry's recent work we may here mention the Dulwich Public Library, 1896 (Charles Barry & Son); the church room and hall for St. Peter's Church, Dulwich Common-road; the laying-out of a new thoroughfare—Eynella-road—leading out of Woodwarde-road into Court-lane, Dulwich, and the church-hall for the Baptist church at the corner of Winterbrooke-road, Herne Hill, being part of a scheme which is to be carried out at a cost of between 9,000*l.* and 10,000*l.* In May last year, under circumstances which our readers will doubtless recollect, he, in justice to himself, felt compelled to resign his appointment as architect to the Athenæum Club, which he had held since 1881. As assessor, Mr. Charles Barry adjudicated in the competitions for the Llanelly Town Hall (1892); the Municipal buildings incorporate the old St. Mary's Hall, Coventry (1894); and the West of England Eye Infirmary, at Exeter (1894). On December 13, 1884, and January 24, March 21, and July 11, 1885, we published a notable set of illustrations showing his proposed modifications of his father's plans for the Houses of Parliament, and his own designs for the completion of Westminster Palace, and the treatment of Westminster Hall. Mr. Charles Barry was an original member of the Surveyors' Institute, an honorary member of the Academies of Fine Arts of Vienna and Milan, and a member of the Council of the City and Guilds of London Institute. He was elected a Fellow of the Royal Institute of British Architects in 1864, and President in 1876, holding that office during three years during which his energy and businesslike character were of great service to the Institute. The Royal gold medal of the Institute of Architects was conferred upon him in 1877; in the following year he served upon the Royal Commission for the French Universal Exhibition, and was the sole representative British member of the International Jury of the Fine Arts Section for making awards in architecture; for his eminent services upon that occasion the French Government decorated him with the cross of an officer of the Legion of Honour. Mr. Charles Barry married a daughter (who predeceased him) of Mr. Thomas May, of Exeter. He was buried in Broadwater Cemetery, near Worthing, on the 6th inst.

GENERAL BUILDING NEWS.

WESLEYAN CHURCH, BEESTON, NOTTINGHAMSHIRE.—A Wesleyan church has been opened in the Queen's-road, Beeston. The new church occupies a site in front of the present school-chapel. It is 52 ft. long inside, 43 ft. wide across the transepts, and 34 ft. wide across the nave. There is a gallery at one end, and seating is provided for 425 persons. The walls are of brick with stone dressings. The front gable contains a traceried window, flanked by a porch on the left containing stairs to the gallery, and at the right with a square tower, terminating with a spire 70 ft. in height. The roof is open timbered and of pitch pine. The glazing throughout is in cathedral glass with lead lights. There are two vestries, and there is a recessed arch behind the Communion rail, forming a small chancel, and on one side of this is the organ chamber within an arched recess. The architect is Mr. John Wills, of Derby, and the contractor Mr. Wm. Edwards, of the same town.

NEW CHURCH NEAR EATON HALL, CHESHIRE.—On the 23rd ult. the new Church of St. Mary's, Eccleston, near Chester, was consecrated by the Bishop of the diocese. The edifice was the gift of the late Duke of Westminster, and its cost is estimated at between 30,000*l.* and 40,000*l.* The church is fourteenth-century in style, distinctly English in its character. It is entirely vaulted with stone, and lit with traceried windows. The fabric is one continuous width, including the tower, broken only by the screenwork across the entire width of the interior. The windows are of stained glass, representing Scriptural subjects. The oak work is as yet left in its natural crude yellow colour, but it is the wish of the architect to bring it into harmony with the red stone by staining, as was the wish of the late duke. The church is fully furnished. A sedilia of carved oak is provided for the chancel. The belfry contains eight bells by Messrs. Taylor, of Loughborough; whilst the organ is erected over the tower arch. Altar frontals are provided for the different Church seasons, whilst the legal church ornaments of cross and candlesticks were all designed by the architect, Mr. G. F. Bodley, A.R.A. —*Liverpool Post.*

A NEW CHURCH FOR BRADFORD.—The memorial stone of St. Oswald's Church, a chapel-of-ease to St. Stephen's, West Bowling, was laid on the 24th ult. The site of the church is at Chapel Green, close to Little Horton-lane. In consequence of the mining operations which have in the past been carried on in the district, the foundations have had to be arched to a considerable height. The church is to consist of nave and north and south aisles, with a chancel and a chancel aisle, and vestries for clergy and choir. The whole of the interior is to be lined with dressed stonework. The window spaces are to be filled with stone tracery. The seats will be in the form of open benches in oak, and open oak screens will divide the chancel from the side aisles. The north elevation will have a tower crowned with a stone spire. Seating accommodation will be provided for about 500 worshippers. Messrs. T. H. & F. Healey were the architects of the building. The sum of the contracts amounts to about 10,000*l.*, the work having been let to the following firms:—Messrs. T. Obank & Sons, masons, Thackley; Messrs. T. Taylor & Sons, joiners; Messrs. Hill & Nelson, slaters; Messrs. Cordingley & Sons, plasterers; and Mr. S. Rushworth, plumber, Shipley.

CONGREGATIONAL CHURCH, RAY LODGE, WOODFORD.—A Congregational church is being built in Snakes-lane, at the corner of Ray Lodge-road. The foundation-stone was laid on the 19th ult. The architect is Mr. Frederick Boreham, and the builder Mr. C. North, his contract being 2,334*l.*

BAPTIST CHAPEL, STAMFORD, LINCOLNSHIRE.—The Baptist Chapel in North-street, Stamford, was reopened on the 24th ult. The original building has been pulled down, with the exception of the west and north walls. The new chapel is 56 ft. long, 28 ft. 6 in. wide, and 29 ft. high to the under side of the collar beams. There is a school adjoining the chapel. Each of the two schoolrooms is 27 ft. by 24 ft. 6 in. The front of the chapel has ashlar facings with freestone dressings. The whole building is covered with Welsh green slates on felt. Mr. J. B. Corby, of Stamford, was the architect, Mr. John Woolstone, of the same town, having been the builder.

WESLEYAN CHURCH, WILLINGTON QUAY, NORTHUMBERLAND.—The new Wesley church at Willington Quay was opened on the 26th ult. The building occupies a frontage of 60 ft. in Clavering-street, and 80 ft. in Norman-terrace. It is faced with Atlas bricks with Morpeth stone dressings, and will seat 500. The cost has been about 2,500*l.* Messrs. Cowper & Henderson, of Jarrow, were the contractors, and Messrs. T. A. Page & Son, of South Shields, the architects.

CATHOLIC CHURCH, AIGBURTH, LANCASHIRE.—The new Catholic Church of St. Charles, Aigburth-road, was opened on the 27th ult. The church consists of a nave, with tower at the west end, facing the road, and chancel, flanked by two chapels, the sacristies and confessionals being placed on the Gospel side. The nave is lighted by twelve traceried windows of alternate design with cathedral leaded lights. The eastern wall is pierced by three moulded stone arches, the centre one of which is 34 ft. high. The entrance to the church is through the tower, which rises to a height of 95 ft. from the ground and is built in three stories, and crowned by a corbelled and battlemented parapet. The story over the porch is utilised for the organ, and the second is the belfry. The body of the walls is brick-faced on the outside, with Yorkshire parpoints and red Runcorn stone dressings, and on the inside with white Stourton stone. The electric light has been installed by the Liverpool Corporation. Messrs. Pugin & Pugin were the architects.

WESLEYAN SCHOOL CHAPEL, NEW CLEETHORPES.—On the 24th ult. the foundation stone was laid of a Wesleyan school chapel in Lovett-street, New Cleethorpes. The building will accommodate 400 persons and was designed by Messrs. Gelder & Kitchen, of Hull. The builder is Mr. Ion.

THE NEW CHAPEL, TONBRIDGE SCHOOL.—The foundation stone of the new chapel to be erected at Tonbridge School was laid on the 22nd ult. The building will be constructed of local sandstone and

will accommodate 650 persons. The architect is Mr. W. Campbell Jones.

BARSTON CHURCH, WARWICKSHIRE.—The Bishop of Coventry re-opened the parish church on the 28th ult., on the completion of the first section of its restoration at a cost of about 700*l.* Mr. E. H. Lingen Barker, of London, Birmingham, and Hereford, was the architect engaged.

HOTEL, LUNDIN LINKS, FIFE. — The Lundin Links Hotel was opened on the 24th ult. The building was designed by Mr. Peter L. Henderson, of Edinburgh. The under stories and chimneys are of finely-pressed red bricks, while the upper stories and projecting gables are of half-timbered work, filled in with brick nogging and harled or rough cast. On the first flat there is a large dining-room, and beside it, but divided by a sliding panelled partition, is the drawing-room. These will form a large hall for gatherings. Off the half-landing of the main staircase is a billiard-room for two tables. There are twenty public bedrooms. The whole building has been fitted up with the electric light. The contractors were :—Mason work, Wilkie & Gibb, Leven; joiner work, William Robertson, Leven; iron work, Alex. Mather & Son, Edinburgh; plaster work, Alex. Williamson, Largo; plumber work, D. Purvis & Co., Edinburgh; tile work of roof, James Smith, Largo; electric lighting, Middleton & Co., Edinburgh; grates, A. Gilchrist, Edinburgh; painter work, John Rolland, Leven.

PUBLIC LIBRARIES, LEWISHAM AND FOREST HILL.—Memorial stones were laid on 19th ult. of public libraries at Lewisham and Forest Hill. The Lewisham library is being erected in the High-street close to the parish church. The building has a frontage of over 100 ft. to the main road. The rooms are approached from a central hall and lobby, and have open timbered roofs with lantern lights. They comprise lending library, newspaper room, reference library, and magazine room, with office for librarian. The building is in the Renaissance style, of red brick and terra-cotta. At Forest Hill, owing to the width of the site being limited, the public rooms, which are similar to those at Lewisham, are placed on each side of a central corridor, and divided from it by glass screens. There is a tower over the entrance, and a moulded frieze with figures and flowers round the tower and adjoining gable. This building also is in red brick and terra-cotta. The memorial stones for both are in faïence, manufactured by the Burmantofts Company, who are executing the terra-cotta work. The architect is Mr. A. R. Hennell.

BUSINESS PREMISES, LIVERPOOL.—New premises have been erected in the London-road, Liverpool, for the Liverpool Furnishing Company. There is a frontage to London-road of 45 ft., and the depth to Hart-street is 80 ft. Facing London-road the building has five stories; at the back there are four. The main entrance is in London-road. The upper floors are carried on steel girders so as to obtain a clear floor space. These girders were supplied and erected by Messrs. M'Intyre & Jones, of Liverpool. The glazing throughout was carried out by Mr. J. G. Nicholls. The terra-cotta used in the building was supplied by Mr. Jabez Thompson, of Northwich. An illuminated clock, supplied by Messrs. J. B. Joyce & Co., of Whitchurch, has been fixed at the corner of London-road and Hart-street. The electric lighting has been carried out by Messrs. Campbell & Isherwood, Bootle; the wood block flooring and mosaic work was executed by Messrs. Geary, Walker, & Co. The contractors were Messrs. Roberts & Thomas, and Messrs. W. Hesketh & Co. were the architects.

NEW HOTEL, RUSSELL-SQUARE.—The new Hotel Russell is built upon a site nearly an acre in extent on the east side of Russell-square, the boundaries being Guilford-street on the south, Bernard-street on the north, The Colonnade on the east, and the Square on the west. Previous to 1894 this area was occupied by Nos. 1, 1A, 2, 3, 4, 5, 6, 7, and 8, Russell-square, 58, 59, and 60, Guilford-street, 1 and 2, Bernard-street, and 47, 49, 51, 53, 55, and 57, The Colonnade, but in 1894 they were demolished. In 1896 the Duke of Bedford let the land for the erection of the hotel, and in December of that year the work was commenced by Messrs. Langdale, Hallett, & Co., from designs prepared by Mr. C. FitzRoy Doll. Accommodation is provided for 600 guests. Mr. Henry C. Fehr was selected by the architect to execute the modelling. The sub-contractors include the following :—Messrs. Doulton & Co., for terra cotta; Messrs. Dorman, Long, & Co., for steelwork; Messrs. Clement Jeakes & Co., for heating and kitchen fittings; Messrs. Arthur Lee Bros. & Co., for the marble to entrance and main stairs; Monsieur Bouvet for the other marble work; Messrs. Maple & Co. for decorative work and electric lighting; the Coalbrookdale Iron Company for the outside lamp standards; Messrs. Butcher & Axtell for carving; Messrs. Singer & Sons for balcony railings, iron balustrades to stairs, electroliers, &c.; Messrs. Waygood & Co., Limited, for lifts, pumps, &c.; Messrs. Hill & Smith for area railings; Messrs. Ewart & Son for copper roofing of towers and dome; the British Challenge Glasing Company for glazing the winter garden; Rust's Vitreous Mosaic Company for mosaic; Mr. A. L. Moore for stained glass; Messrs. Merryweather & Co. for fire appliances; Messrs. Burt & Potts for iron casements.

WORKMEN'S DWELLINGS IN ABERDEEN.—The Town Council have accepted offers amounting in the aggregate to 5,455*l.* 9s. for the erection of six tenement houses for working men, in Park-road and Roslin-street. Mr. John Rust, Aberdeen, is the architect.

FOREIGN.

FRANCE.—M. Vaudremer has been appointed President of the Jury of Architecture for the Paris Exhibition; Herr Cuypers Vice-President; M. Pascal "rapporteur"; and M. Mayeux secretary. ——An exhibition of the works of M. Legros has been opened at the Luxembourg. Among the pictures, the portraits of Darwin and Mr. Watts have attracted great admiration, and among the etchings, those of Cardinal Newman and Cardinal Manning.——M. Gabriel Ferrier has just completed a ceiling painting and four panels which had been commissioned for the Terminus Hotel of the new Gare d'Orléans at Paris, and M. Benjamin-Constant's large allegorical ceiling painting has just been fixed in the same station.——In virtue of the new regulations of the Ecole des Beaux-Arts, several young ladies have successfully passed the entrance examinations for painting, sculpture, and architecture. In the architectural department one of them, Mlle. Morgan, has been specially recommended by the jury.——The sale of the paintings left by Rosa Bonheur in her studio, which has lasted four days, has realised 933,341 francs.——The Louvre has just acquired an admirable collection of objects of jewellery, silversmiths' work, enamels, ivories, and miniatures, left to the museum by Baron Alphonse de Rothschild, who also left a sum of 300,000 francs for the proper arrangement of the collection.—— The pavilion of the special exhibition of M. Rodin, the sculptor, has been opened in the Place de l'Alma. It contains six rooms, containing a number of works of the sculptor, many of them of course of great merit, others more doubtful, and the too celebrated statue (?) of Balzac, which those who did not see it at the Salon may like to see as a curiosity.—— The death is announced at Compiègne of Comte Arthur de Marsy, Director of the "Société Française d'Archéologie," and who enjoyed a great repute for his archæological learning. The death is also announced of M. Simon Girard, a member of the Société Centrale des Architectes.

INDIA.—Fifty-six miles of the Wazirabad-Mooltan railway have been opened for traffic. With the exception of the Ravi bridge of four spans of 96 ft., and one span of 100 ft., no large engineering works have been found necessary.——Additions will have to be made to the Calcutta waterworks in view of the shortness of the supply during the last three months.——The old museum building at Shillong, which was destroyed by an earthquake in June, 1897, is now being rebuilt from designs by Mr. W. Arundell, of Calcutta, Consulting Architect to the Government of Assam. When completed it will again be utilised as the office for the Director of Public Instruction.——The Simla Municipality contemplate lighting the whole of the city by electricity, and have applied to the Government for permission to engage an expert to report on the matter.——One of the largest undertakings of the engineering department of the Madras railway this year is the renewal of the immense girders on the Tungabhadra Bridge. ——The Forests Departments of Madras and Punjab contemplate establishing factories for preserving timber for railway sleepers by the Haskin process. It is believed that by employing this method the commoner kinds of pines of the Himalayas may be made to take the place of the expensive *deodar*, which at present is almost the only pine timber available for use.——The bridge across the Indus at Kotri is now completed, and the official inspection on the 17th ult. having proved satisfactory it is probably now opened for traffic. A footway has been provided for passengers, whilst vehicular traffic is allowed on the railway track.—— Plans for a new large railway station at Howrah are being prepared; the scheme provides for accommodation for both the Bengal-Nagpur and the East Indian Railway Companies.——An agitation is on foot in Calcutta to memoralise the Government on the subject of the construction of a large central railway station in the city on the left bank of the Hooghly.——A grant is to be made this year by the Indian Government for the erection of a large post-office in Lahore, the capital of the Punjab.——New public offices are about to be erected in Bangalore from the designs of Mr. J. E. O'Shaughnessy. —— The railway station of the ancient and holy city of Benares is to be lighted by acetylene gas, on the Thorscar system, to be carried out by Messrs. Lockerbie, of Birmingham. There will be about 200 lights employed to light the station and approaches.

MISCELLANEOUS.

THE BACTERIOLOGICAL TREATMENT OF SEWAGE. —The closing meeting of the session of the Yorkshire section of the Society of Chemical Industry was held at the Yorkshire College, Leeds, on the 28th ult., when an address on the bacteriological purification of sewage was given by Mr. W. H. Harrison, B.Sc., chemist at the Leeds sewage works. Alderman T. W. Harding presided. In the course of his paper Mr. Harrison first described the treatment of sewage by septic tanks, by which the sewage was sent slowly through a large cesspool, and he showed that about 50 per cent. of purification was effected, and as far as could at present be ascertained, about 50 per cent. of the total suspended solids in the sewage were destroyed. The process, he said, was essentially one of an aërobic fermentation. The filtration of screened sewage through contact-beds was next dealt with, the tanks in this case being filled with coke, clinker, or other material as the filtering body. The beds were filled with sewage, which was allowed to stand for a certain period, and were then emptied. With screened sewage this process was repeated through two beds, one composed of rough material and the other with very fine material, until the effluent was fit to turn into a river. Accumulations occurred in the rough bed, and these gradually decreased the amount of sewage which could be treated by a particular bed in twenty-four hours. A good effluent could be obtained from this double filtration process, but the sludging-up of the rough bed was the chief difficulty, great expense in cleaning the filtering material being involved. Referring to continuous filters made of very rough material, such as coke or clinker, he said that they gave a good effluent, but it was very turbid on account of the comparatively great amount of solid matter which they contained. This solid matter was easily removed by sedimentation, producing an effluent which was quite satisfactory. The sludge produced was non-putrescent. In opening the discussion which followed the Chairman said that the subject was one of great anxiety to all Corporations. In the old days the question was apparently simple enough. The matters which now proved so troublesome were very easily turned into the sewer, but in these latter days of great populations and huge aggregations of houses—unfortunately not always surrounded by grounds of their own—it was no longer possible for each household to return to the soil what ought to be returned to it. Water carriage was a very simple way of removing elsewhere these difficulties from the houses of the people, and formerly nobody troubled very much where. Then engineers realised that from time to time the system of water carriage required flushing-out, and they found that the most convenient way was to allow the rain-water to pass into the drains. Then there arose all kinds of noxious trades, and it was the simplest thing in the world to turn the foul effluent into the sewers, especially where there was not a vigilant rivers board. At Leeds, for instance, it was astonishing to see the large quantity of dye-water which was produced, and which turned the whole of the Leeds sewage a deep blue colour. Then, perhaps, the most important pollution besides dye-water was due to the presence of iron liquor. Every day about five tons of this metallic substance entered the Leeds sewers. The old-fashioned method of treatment, commenced twenty or thirty years ago, was by means of chemical precipitation. It was thought that if the matters in suspension were settled all that could reasonably be expected had been accomplished. That, however, did not purify more than one-half of the sewage. By the system of precipitation which had been practised at Leeds for years an immense amount of sludge was settled. The existing sewage works at Leeds only settled about 300 tons a day, whereas if the Corporation did their duty the amount would be from 400 tons to 500 tons. After years of investigation all that he could say was that, whilst a certain amount of success had been obtained, there were still very great difficulties to be solved.

"BRICKWOOD."—In reference to our notice of this material (page 525 *ante*) the Secretary of "The United Kingdom Terra-Cotta Fire and Sound Proof Brick Company" writes to say that it is their patent and not that of Mr. Jabez Thompson, who manufactures it under a licence from the company.

THE PATENT OFFICE ANNUAL REPORT.—The Comptroller-General's report sets forth that 25,786 applications for letters patent, 19,495 for designs, and 8,927 for trade marks were deposited in the course of last year. The applications for patents, which had fallen by 3,302, or by 10·7 per cent., in 1898, suffered a further decrease of 1,864, equivalent to 6·8 per cent., in 1899, the totals for 1897 and 1898 being 30,952 and 27,650 respectively. A careful analysis proves that the diminution is occasioned by a decline in the applications made in a "provisional" or initial shape, only 20,015 of that kind having been lodged—a smaller amount than those received in any year since 1891, and less by 2,371, or 10·6 per cent., than in the previous twelve months. But it should be observed that the number of "completed," or approved, specifications, was 5,771—equal to an increase of 9·6 per cent. as compared with the corresponding total for 1898, and by far the largest amount ever lodged in any one year. Women inventors filed 574 applications, of which 149 relate to articles of dress, and 42 to the cycling industries. To the great decline of inventive activity in the last-named direction is mainly attributed a decrease of about 1,000 in the total number of "completed" specifications; a decrease moreover is manifest in respect of motor-cars. On the other hand, there are evident indications of continued development in "penny-in-the-slot" machines, dynamo-electrical generators, electrical lamps, electrical telegraphs, telephones, phonographs, and automatical couplings; whilst

the Workmen's Compensation Act has induced a marked addition to inventions for circular-saw guards, and 50 applications relate to various forms of seats and chairs for shop-assistants, The decline in the total of applications for the year 1899 is particularly noticeable in those (15,340) received from within the United Kingdom, and from the colonies of New Zealand, Victoria, and the West Indies; the applications from Germany (2,921) and the United States (3,022) are much more numerous than they were in 1898; Scotland and France contribute 1,116 and 1,031 respectively. When a general average is taken it appears that of every 100 applications not more than fifty advance to the final stage and are sealed, and that of every 100 sealed patents, thirty-one are upheld in force for five years, the numbers of those thus maintained gradually diminishing year after year, until only five are kept up for the full period of fourteen years; the result may be otherwise expressed by saying that sixty-nine out of 100 sealed patents are allowed to lapse through non-payment of further fees after the expiration of four years. The total receipts for the period under review amount to 225,700*l.*, the total expenditure to 123,216*l.* (including salaries and office expenses, 59,644*l.*); the corresponding amounts for 1898 were 223,419*l.* and 101,049*l.* The surplus of income is 102,484*l.*; in 1898 it was 122,370*l.* The increase in expenditure is due mostly to a charge of 24,118*l.* for the new buildings, comprising the library in Southampton-buildings, which it is expected will be ready for occupation in 1902. The number of readers in the free public library fell to 29,294, as compared with 33,004 in 1898. The decrease is probably owing to the fact that the library is temporarily separated from the main office during the erection of its new quarters. The total number of designs includes 724 "sets," which latter are described as any number of articles ordinarily on sale together, irrespectively of the variations of the size or arrangement in which the particular design may be shown in each separate article. The report contains a list of the technical and other public libraries, institutions, offices, and so on, 265 in all, both at home and abroad, which are furnished with copies of official publications from the head office.

BRIGHTON MASTER BUILDERS' ASSOCIATION.—The annual dinner of the Brighton Association of Master Builders was held at the Clarence Rooms, Hôtel Métropole, on the 31st ult., the chair being taken by Alderman Botting, J.P. "The Queen and Royal Family" was given by the Chairman, and Councillor Holloway proposed "The Navy, Army, and Reserve Forces," coupling with the toast the name of Surgeon-Major Turton, who responded. Mr. J. K. Nye next proposed "The Corporation of Brighton." Councillor Neale replied. Councillor Neale next submitted "The Corporation of Hove," and suggested that as the sister borough had hitherto taken the lead, and Brighton had followed suit, over the matter of wood paving, they should also set the example of paving their part of the Front, and then Brighton would be bound to follow. Councillor Cresswell, in responding, thought Brighton should take the lead over paving the Front. Mr. G. Godfree proposed "The Brighton Association of Master Builders," asserting that since its formation there had been much less friction with the Town Council. He next commented with satisfaction upon the scheme for assisting wounded soldiers on their return from the war. Having remarked upon the sound financial position of the Association, and the manner in which its influence had manifested itself in the much better buildings now erected, he expressed the hope that under the present able management the balance of 200*l.* would speedily be increased to 1,000*l.* Alderman Botting, in the course of his response, said the Association had a balance in hand more than sufficient to meet all requirements, and commented with satisfaction upon the fact that since the formation of the Association some seven years ago there had been no strike troubles in Brighton. He alluded to the litigation at Hull as an object lesson of the evils of strikes, and went on to say that the fund established with the object of benefiting wounded soldiers had reached over 18,000*l.*, and should it not all be required for building trade men, others would receive the benefit. He gratefully alluded to the generous offer of Lord Pirbright of a site at Bisley for the homes, and went on to mention that if the workmen each gave sixpence another 10,000*l.* would be placed at disposal for the benefit of the sufferers by the war. He next alluded to the insurance scheme inaugurated some two years ago, and so well brought on by Messrs. Nye and Treacher, stating that they now had a large surplus, and declaring that the scheme was working much better than the Compensation Act. Other toasts honoured included "The Visitors," "The Chairman," and "The Vice-Chairmen."

CAPITAL AND LABOUR.

BUILDING TRADE WAGES, MACCLESFIELD.—The building trade wages dispute in Macclesfield and district has been settled at a conference of masters and men. Wages are to be increased one farthing per hour. This will make the wages 7¾d. an hour. A further farthing will be added on September 30.

BUILDING TRADES IN STAFFORDSHIRE. — The building trade in North Staffordshire has now resumed its usual appearance, thanks to the wisdom of the leaders of the bricklayers in strongly urging upon the men to accept the masters' offer of a halfpenny per hour advance. The men by a large majority supported their leaders and accepted the terms offered. Work was recommenced after a stoppage of four weeks, and most of the men who applied for their situations back were engaged. There are, however, a considerable number of the operatives, who left the district, who have not returned, but still the majority of the married men have come back home. Happily there will be peace in this trade for a considerable time, for both the employers and the operatives have signed an agreement not to apply for any alteration in wages, &c., for three years. The trade generally has improved considerably, and employment for all classes is moderately good. Joiners have a few out of work. Masons are fully employed. Plasterers report no change from last week. Painters and plumbers are very busy, and overtime is general. At Leek employment for all branches is plentiful, and a number of the operatives are working overtime. At Crewe bricklayers are busy, and joiners are working overtime in most shops. In all the brick and tile yards orders are plentiful, and the men are working regularly.—*Staffordshire Sentinel.*

BRICKLAYERS' STRIKE, STOCKTON.—On the 1st inst. representatives of the master builders of Stockton and the bricklayers, now on strike, met in conference, to see if some settlement of the present dispute could not be arrived at. Alderman A. Cameron presided, and stated that neither side had approached him, but he had suggested the conference on his own initiative, because he thought it was a pity that work should be stopped. The discussion was opened by Mr. Cattle, the men's secretary, who expressed regret that the masters had been unable to advance the men's wages from 9d to 10d. per hour. He was unable to make any other offer. On behalf of the employers, a statement was put in showing that out of 224 towns there were only two paying more than 10d. per hour. There were thirty-seven paying 10d., twenty-five paying 9½d., one paying 9¼d., and thirty-one paying 9d., leaving 128 paying less than 9d. per hour. The average wage throughout the country was just under 8½d. per hour. A long discussion followed, after which both parties held a private consultation. On coming together again, the employers proffered to increase their offer from 9½d. to 9¾d. per hour, making the wage 2*l.* 2*s.* 9d. per week. The men's representatives promised to submit this offer to the men.

THREATENED STRIKE OF EDINBURGH MASONS.—A meeting of Edinburgh and Leith operative masons was held in the Oddfellows' Hall, Edinburgh, on the 30th ult., to consider the masters' proposals to revert to a three months' agreement and a reduction of wages to 9d. per hour, to take effect on June 6. After a long discussion it was decided, on account of good trade, to hold to the present conditions, 9½d. per hour and a twelvemonth's agreement. Unless some arrangement is come to by the masters and men, it was agreed almost unanimously to strike work on June 6. It appears that on April 5 last the masters gave notice of 1d. reduction per hour and several alterations on the rules of agreement, to take effect on June 6, the date on which the past year's agreement expired. Since then several conferences have been held with the men, and ultimately the masters indicated their willingness to let the rules stand as before, and to settle with the men on the basis of ½d. reduction, making the wage 9d. per hour instead of 9½d. On April 13 the joiners accepted a reduction of ½d. in their wages.

STRIKE AT NORWICH.—The Norwich bricklayers, to the number of nearly 500, went out on strike on Saturday last for an advance of 1d. per hour and a reduction of their working hours from 56 to 52½ hours. In 1897 and last year, under threat of a strike, masters advanced men's wages, but the masters are now combined together and have resolved that the present time is favourable to make a stand. The men are backed up by the Operative Bricklayers, and there is every prospect of a long struggle.

LEGAL.

THE HARMSWORTH BUILDINGS:

CONTRACTOR'S "FURTHER PARTICULARS."

ON the 31st ult., in the Appeal Court, composed of Lords Justices A. L. Smith, Vaughan Williams, and Romer, an appeal was heard in the case of Williams *v.* Harmsworth, in which the defendant appealed from an order of Mr. Justice Ridley.

Mr. Robson, Q.C., for the defendant, said the appeal was from an order of Mr. Justice Ridley, varying an order of Master Wilberforce, who directed the plaintiff to give further particulars in respect to his claim. By the order the Master directed that certain particulars under the claim should be given, but the learned Judge had allowed only a few of the particulars which were ordered. The action was brought by the contractor or builder against Messrs. Harmsworth, the proprietors of the *Daily Mail*, and the claim was for a balance due in execution of certain works, and the erection of certain buildings by the plaintiff for the defendants comprising the *Daily Mail* offices, the balance being 35,000*l.* alleged to be due. The contract was that the plaintiff was to build the premises for 57,000*l.*, and that amount was increased by extras and other matters to the amount which he now claimed. The contract was further increased from 57,000*l.* to 97,000*l.*, and when full particulars were asked for, what was delivered was the ordinary building account. In that account there were items of which his client complained—items claiming very large sums, of which no proofs were given. The defendants said that the plaintiff was not in proper time, and that a large amount of the buildings in respect of which the action was brought had to be pulled down; besides, there were various questions as to quantities supplied, &c. Whatever particulars were asked for now would have to be supplied before whatever tribunal would try the case, and if the defendants did not get the particulars required they would have to ask for them before the official referee. He (counsel) was only asking for what the plaintiff must give before the official referee, and he was only asking for them now in order that he might be able to deal with the various claims and prepare his case, so that he should meet the claims, or otherwise pay them if they were established. They had already paid 60,000*l.*, but they wanted to know what the items now claimed were in respect of, so that they might see whether they had paid for them already, or whether, if not, the plaintiff was entitled to receive payment under the terms of the contract. In respect to this enormous claim, they had positively no information as to many of the items, and Master Wilberforce ordered that the items should be given—such, for instance, as "extra cost of elaborate detail work in front elevation, not shown in contract drawings, or described in drawings or in quantities." In respect to that item, plaintiff claimed 500*l.*, and the defendants wanted to know what the work was. The defendants had paid, as they believed, all that was due in respect to extra work, and now they had this further claim for 500*l.* made, of which they knew nothing. The plaintiff's answer was that the sum was arrived at as a matter of judgment and opinion, by comparison with the original drawings and the details shown thereon, with the work actually executed, and that the additional expenses could be supported by expert witnesses. But there were no particulars at all.

Lord Justice Smith supposed that the real cause of complaint was that the plaintiff said the work in regard to this item would cost 500*l.*

Mr. Robson replied that that was not so.

Lord Justice Smith asked if the claim in respect to the first item for 500*l.* did not represent a substantial sum estimated as the cost of the differences between executing the details as on the original drawings and the work executed on the building.

Mr. Robson: But if he does extra work, we want him to say what that work is.

Lord Justice Smith: But he says that what work has been done you can see, and by the original drawings you can see that that work was not there.

Mr. Robson replied that he was entitled to have from the plaintiff an extra statement, apart from the original drawings, and what work was done by him. Plaintiff said he had done 500*l.* worth of work extra, and the defendants had looked and could not find the particulars.

Lord Justice Smith: The first question at the trial will be, on the account with them:—"Where are the works?"

Mr. Robson: But it seems to me impossible to meet such a case.

Lord Justice Smith: Brother Ridley did not allow that item.

Mr. Robson: No.

Lord Justice Smith: And quite right.

Mr. Robson said he did not object if this application for further particulars were to be dealt with by any tribunal that tried the case, but as the thing stood there would be left no means of getting at the case in regard to all the items that they meant to dispute in the matter of 97,000*l.* But it was better, he contended, that they should have further particulars, so that they might be able to deal with them and eliminate from the claim matters which were not in dispute. About the claim for 35,000*l.*, it would surely be better if they were able to say that they agreed to the claim, but he could not do without further particulars. If it was fairly understood to be the desire of that Court that this application might, after the plaintiff's case was opened, or at any other time, be renewed, then upon those terms he would be content.

Lord Justice Smith said it was not to be supposed by the contractor that further particulars in no event should be given. The ordinary course was for learned counsel to open the case and explain it to the referee, and then the other side opened and asked where the extras were, as between the drawings and the buildings as built. They did not preclude opportunity for asking the referee to make an order for any further particulars he might think necessary.

Mr. Robson said that as long as he was not prejudiced when he went to a legitimate tribunal, and seeing that the referee would be in a position to say whether or not they should have the particulars, he was content.

Without calling upon Mr. English Harrison, Q.C., Their lordships allowed the order to stand,

directing that the costs in the appeal should be costs in the cause.

CROW *v.* WHITECHAPEL DISTRICT BOARD OF WORKS:

INSPECTION CHAMBERS UNDER PUBLIC FOOTWAYS.

ON Friday last, the 1st inst., at the Thames Police Court, Mr. Dickinson gave his decision in this case, which was argued before him on Thursday, May 17, when Mr. Horace Avory appeared for Mr. Arthur Crow, the District Surveyor, and Mr. H. F. Dickens, Q.C., represented the Whitechapel Board of Works.

The facts of the case, which were admitted, were briefly as follows:—The Whitechapel Board of Works, in carrying out the electric lighting scheme for the district, had constructed a number of inspection chambers under the public footways. The general size of these chambers was, approximately, 10 ft. long by 5 ft. wide, inclusive of the brick sides of the structure, and about 2 ft. 6 in. in depth. In some cases the chambers were octagonal in shape, 7 ft. 6 in. in diameter and 7 ft. in depth. A drawing was put in showing the construction of the chambers, which are formed with a brick floor and sides, 9 in. in thickness, upon which rests the steel joists carrying the manhole covers and paving stones. From the drawing it appeared that the sides had been thickened from 4 in. to 9 in. at the instance of the District Surveyor, acting under the authority of Section 72 of the London Building Act, 1894, which requires that every arch or other construction under the public way shall be constructed in such manner as may be approved by the District Surveyor, and the only question at issue between Mr. Crow and the Board was as to the duty of the latter to give him notice under Section 145.

It was contended by Mr. Dickens, in the first place, that the powers conferred upon the Whitechapel District Board by the Electric Lighting Orders Confirmation Act, 1892, to carry out certain works in accordance with plans approved by the Postmaster-General exempted them from the operation of the London Building Act, 1894, and further, that the chambers or boxes in question were not building or structures within the meaning of Section 145.

The following is a verbatim report of the magistrate's reserved judgment:—"This is a summons taken out by the District Surveyor against the Whitechapel Board of Works for not having given him notice before they began certain works, viz., the construction of boxes or chambers under the street for the purpose of electric lighting. Mr. Dickens, for the defendants, contended that it was not necessary for them to give such notice; first, because the London Building Act, 1894, does not apply, the boxes being constructed under the provisions of the Electric Lighting Orders Confirmation Act of 1892, a special Act, which he said is not consistent with the general Act, and therefore overrides it; and, secondly, because even if the general Act does govern, these boxes are not 'building structures or works' within its meaning.

By Section 72 of the London Building Act, 1894, it is enacted that any construction under any public way shall be constructed in such manner as may be approved by the district surveyor, and by Section 145 where any 'building or structure or work' is about to be begun, a building notice respecting it must be served on the district surveyor. In the Electric Lighting Orders Confirmation Act, 1892, the Clauses relied upon by Mr. Dickens were the 11th and 12th. Clause 12 gives power to the undertakers, *i.e.*, the Whitechapel Board of Works 'to construct' (an expression which has a bearing on the second part of Mr. Dickens argument) 'boxes in the streets.' The third paragraph of the clause enacts 'that every such box shall be constructed in such manner as not to be a source of danger by reason of inequalities of surface' (*i.e.*, to the public using the street) 'or otherwise.' Who is to be the judge whether there is any such danger? Probably not the undertakers themselves, but the duly appointed officer under the Building Act whose duties are imposed under Section 72 of that Act. Then Clause 12 requires a notice of the works, with plan, to be served on the Postmaster-General and also upon the County Council; on the Postmaster-General on account of the exigencies of the Post Office, and on the County Council because, if the street is repairable by them, the other provisions of the Section shall, with the necessary modifications, apply to them in the like manner as the Postmaster-General.

It apears to me that the twelfth clause only deals with the notice to be given to the Postmaster-General and the County Council for the purposes I have mentioned, and has nothing to do with the notice required to be given to the district surveyor where any structure is to be made under any public way that he may look after, and guard the safety of the public using the way. Mr. Dickens asked, 'Why give notice to the district surveyor?' who, he says, has nothing to do with the streets. The answer to that question is the 72nd Section itself.

The principle which has to guide me in coming to a decision on this point is, Is there anything in the Special Act of 1892 so inconsistent with the General Act of 1894 that they cannot stand together? If such inconsistency does exist the provisions of the special Act must override those of the General Act, and it was held in the cases cited by Mr. Dickens: The City and South London Railway Company *v.* The London County Council, 1891, 2 Queen's Bench, page 513; the London County Council *v.* the School Board for London, 1892, 2 Queen's Bench, page 606, that such inconsistency did exist. But if the provisions of the two Acts are reconciled the cases of the Uckfield Rural Council *v.* Crowborough District Water Company, 1899, 2 Queen's Bench, page 664; and more recently the London County Council *v.* Wandsworth and Putney Gas Company, decided on April 2, 1900, but not yet reported, show that the provisions of the General Act must prevail. I am unable to see any inconsistency here. The undertakers who are by statute given powers for interfering with the streets have to give notice (for certain purposes) to the Postmaster-General and to the County Council, but that liability is quite consistent with the obligation to give notice to the District Surveyor (as they would have had to do had they been doing any similar work not under statutory powers) in order that he might see that the work was properly done for the public safety.

Further, upon the question of whether the Building Act applies it is important to look at Section 201 (the exemption clause) which does not include electric lighting, although it specially mentions railway, dock and gas companies; but there is a Section (203) which does specially mention electric supply companies and exempts certain buildings (these boxes or chambers not being amongst the number) from the general provisions of certain parts of the Act, the inference to be drawn therefrom being that the other buildings of such companies were to be subject to the provisions of the Act.

Upon the second point, whether the boxes or chambers, which are admittedly of varying sizes, are buildings or structures or works within the meaning of the 145th section, I am of opinion that they are. They are the artificial work of man, excavated and then specially constructed with bricks and mortar and used for a definite purpose. I can see no reason why the terms should not apply to buildings below as well as above the surface of the ground, which, indeed, was the view expressed by the judges in Thompson *v.* The Sunderland Gas Company, 46 Law Times, Queen's Bench, page 710. I find that in the case of The Mayor, &c., of Tunbridge Wells *v.* Baird, 60 Justice of the Peace, page 788, Lord Halsbury, Lord Herschell and Lord Macnaghten spoke of a convenience which the Corporation had made in one of the streets, sunk to a depth of 9 ft., and lighted by skylights on a level with the surface of the street, as a 'building the erection of which is complained of,' 'construction of this underground chamber,' &c. As a matter of fact and of law, then, I find that these boxes or chambers come within the 145th section.

I, therefore, impose the nominal penalty of one shilling with ten guineas costs."

Upon the application of the Board of Works leave was granted to appeal.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

2,441.—LIFT AND PRESSURE REGULATING VALVES: *W. H. and R. Thompson.*—In order that the lift-valve may serve for regulating the pressure the inventors cause the valve to press against a seating which is made upon a perforated cup fastened with a nut, and they attach a screwed cap on to the base of the valve casing to allow of removal of the parts. The spindle, which is not screw-threaded, is joined with gearing to a coiled spring, whose tension, being adjustable, regulates the pressure at which the valve becomes opened.

2,461.—TREATMENT OF SEWAGE: *D. Cameron, F. J. Commin, and A. J. Martin.*—For introducing air into sewage or sewage effluent from a septic tank. Water or purified sewage is sprayed into the sewage or effluent; in the containing chamber is fitted a tray filled with coke, &c., or the chamber's vertical walls may be built with perforated bricks, so as to facilitate the retention of the air by the liquid. The invention extends to the independent treatment of part of the sewage of a town that is withdrawn at a level higher than that of the main outfall, and to the distribution of sewage over filter beds by means of open channels which are joined with sockets to the main supply pipe's upper part.

2,520.—WALL AND ROOFING TILES: *G. Viggars.*—The lower portions of the tile, which is stepped and rabbetted, has a flat surface, with neither ridges nor grooves; its lower edge is bevelled so as to fit against the bevelled portion of the tile next beneath it, the lower rabbet presses against the next tile's upper outside shoulder, whilst the rabbet or upper inside shoulder bears against the supports or battens; the tiles having been laid so as to break joint in the customary manner, central drainage grooves are made lengthwise in their upper shoulders in order to divert any water that may percolate between the side joints of the tiles above, and cause it to flow down the centres of the tiles.

2,536.—COVERS FOR MANHOLES AND GRATINGS: *E. M. Munro, H. Brecknell,* and *H. I. Rogers.*—In the body of the frame is fashioned a recess for taking a screw by means whereof the grating is to be secured, the nut of the screw being moulded in position.

2,565.—APPARATUS FOR PAINTING AND GRAINING SURFACES: *H. Meier* and *F. Obacht.*—The contrivance (which will serve also for the application of designs or patterns on to prepared surfaces) consists of two rollers that are carried by arms, adjustably attached to the base of a frame which is to be carried by the hand. One of the rollers, which holds the paint or other material, has its pierced periphery overlaid with felt, which feeds the paint on to the other, or printing, roller, whose surface, made of caoutchouc, bears the design desired. For producing different designs, or for finishing designs at the corners of walls and ceilings, a set of various rollers can be used.

2,578.—A COMBINED PARALLEL RULER AND CENTROLINEAD: *G. McMullen.*—Two cross-links, which are pivotted to the blades of the ruler and to slides, join the two slotted blades, and the links are also slotted to take two slides, which are pivotted to one another at the crossing—one slide is retained loosely with a screw, and can be fixed in any desired position with nuts; the other slide is traversed with a screw. To one of the blades of the ruler is attached a piece wherewith it is affixed to the drawing board, and screws that pass through the piece fasten the blade at the angle required; the instrument serves as a parallel ruler when the pivot of the crossing of the links is at the centre; but the slides may be re-adjusted so that it may be used, for approximate purposes, as a centrolinead; the adjustments that must be made for radii of given length being taken from the scale upon one of the cross links.

2,581.—PACKING FOR JOINTS: *J. H. Lowe.*—A soft metal grommet washer or collar is fashioned in the form of a hollow casing, and is fitted with jointing cement or lead, which comes into contact with the screw thread after the joint is tightened up.

2,613.—METHOD OF VENTILATING CLOSETS, &C.: *G. B. Davis.*—The inventor contrives that, after the ball and float have dropped with the emptying of the flushing-cistern, the water shall flow away so as to drive a turbine—an exhausting fan upon the turbine's axis draws air from the closet and then impels it into a shaft; when the water has flowed through the turbine it is diverted into the cistern below.

2,668.—WIRE FENCING: *J. W. Manchee.*—The wires are received in slits that are made in droppers formed V-shape in section, and the slits are so shaped as to join the wires, being also formed with their ends upwards and downwards alternately.

2,733.—MACHINE FOR CUTTING OVALS: *L. Marchand.*—A movable table, whose construction is similar to that of an oval chuck, carries the material, clamped on to it with dogs, the revolving cutters being mounted upon a vertical spindle, which is driven by a pulley and a belt. The table is rotated upon a disc, which is turned with an axis fixed on to a slide. The slide works within a diametral guideway, arranged upon the table's under side, the disc's centre being eccentric in respect of the centre of the shaft. In another form, a horizontal axis carries the cutter.

2,757.—JOINTING AND REPAIR OF DRAIN PIPES: *G. F. Restall.*—The apparatus comprises two rubber discs that slide upon a spindle and are fastened on to plungers which work within fixed cylinders, the arrangement of the discs forming a space or chamber between them for receiving cement; when the discs are drawn through the pipe the cylinders are acted upon by fluid pressure admitted through cocks and ports, and as they are thus forced together the cement is pressed into the joints of the pipe.

2,766.—A CIRCULAR-SAW GUARD: *J. E. Welsby and J. R. Ward.*—Beneath the saw bench is bolted a riving-knife, which rises up behind the saw through the bench's saw-slit; two plates, faced with wood, and attached to the plate's opposite sides, with thumb-screws passing through a slot, form the guard, and a curved metal plate covers the plates over the saw. The guard can be adjusted at varying heights and an extension can be hinged on to the guard's front end.

2,769.—TRAPS FOR SLOP SINKS AND CLOSET BASINS: *S. S. Hellyer.*—For joining a metal trap to a basin, or sink, which is mounted upon a bracket or a similar support, the inventor fashions an annular recess upon the basin's outlet for taking the trap's flange, and provides a metal ring and a packing ring, which are fastened on to the basin, or sink, with T-headed bolts arranged so as to engage with recesses shaped in the body of the basin; in order to make allowance for any small misfit of the parts, the bolt-holes in the metal ring and in the basin are extended in directions that are at right-angles to one another.

2,798.—ROOFING TILES: *J. J. Hammond.*—Flat under surfaces, upper ribs, and ogee lap joints are formed upon the tiles, which are made of earthenware, concrete, or cement. When the tiles are placed in position their sides are sustained by ribs, and their flat lower edges overlap, resting upon the ribs of the tiles next below.

2,800.—A COMPOSITION OF CORK, &C.: *F. Bartleet.*—The artificial cork is specified as being applicable for building purposes generally, namely, for flooring planks, for partitions, panels, mouldings, or carved work, and for blocks, tiles, and slabs. It is also claimed to be a non-conductor of heat, elec-

tricity, and sound, to be waterproof, to possess several other advantageous properties, and to be capable of serving many useful purposes. It is formed by mixing granulated or powdered cork with shellac, resin, or some other adhesive material, either in the shape of a powder or of a solution in spirit, whilst for a binding agent a solution of oxide of copper in ammonia is used. After the solvent has evaporated, the admixture is pressed in moulds, heated or baked (whilst in the moulds), cooled, and taken out of the moulds; it is then ready for being turned, sawn, cut, polished, &c.

2,829.—LAVATORY FITTINGS: *H. L. Doulton.*—It is contrived that the overflow pipe's lower end shall serve the purpose of a tubular waste valve, a short guiding-tube is provided for the pipe, the guide-tube being affixed to the grating which is screwed into a surrounding disc; certain modifications are specified—in one form the overflow pipe's tube is placed within another that will act as a siphon to be started by a first discharge, and air is admitted through a spring valve upon the crown of the siphon; in another form the waste is caused to flow through holes cut in the lower portion of the guiding tube, after the overflow pipe has been lifted up.

2,848.—VARNISHES: *A. J. Smith.*—A varnish is made by heating an admixture of linseed or other oil and gum, such as copal or kauri, within a closed vessel which is to be heated with a jacket or coil for high-pressure or saturated steam, or water heated under pressure; turpentine and driers are added to the mixture when it has become cool.

2,938.—KILNS: *J. Ward.*—The ovens or kilns are devised for the drying of limestone, other stone, and similar materials in large pieces; the metal-lined shaft has hanging doors upon each side of the lower part of the chimney outlet through which the contents of the loaded wagons are discharged. Side flues convey the gases from the furnace into the shaft through grated openings which are formed in the hopper-shaped base; a hanging door of two parts is hinged at the base for the discharge of the dried material from a frame or wagon carried by wheels or rollers and caused to move slowly with a reciprocating action; another mode of effecting the discharge is described, whereby an inclined bottom replaces the wagon—its upper part being fixed and its lower part being mounted upon levers and caused to move to and fro transversely.

MEETINGS.

SATURDAY, JUNE 9.

St. Paul's Ecclesiological Society. — Visit to the Churches of Bedfont and Stanwell, conducted by Mr. Samuel Rawson.

Northern Architectural Association. — Visit to Jarrow Church and Tynemouth.

MONDAY, JUNE 11.

Royal Institute of British Architects. — Fifteenth general meeting. (Business)—(1) to receive the report of the scrutineers appointed by the annual general meeting to direct the election of the Council, Standing Committees, &c.; (2) election of candidates for membership. 8 p.m.

Society of Engineers.—Paper by Mr. Algernon H. Benyon, entitled "Notes on Electric Traction." 7.30 p.m.

WEDNESDAY, JUNE 13.

Institute of Sanitary Engineers (Incorporated).—General Purposes and Finance Committee at 3.30 p.m. Election Committee at 5 p.m. Half-yearly General Meeting at 7 p.m.

Carpenters' Hall, London Wall.—Carpenters' Company's Examination. 6 to 10 p.m.

THURSDAY, JUNE 14.

Carpenters' Hall, London Wall.—Carpenters' Company's Examination. 6 to 10 p.m.

FRIDAY, JUNE 15.

Carpenters' Company.—Practical Examination at the Company's Schools, Great Titchfield-street. 9.30 a.m. to 5 p.m.

SATURDAY, JUNE 16.

Carpenters' Company.—Vivâ voce Examination at Carpenters' Hall. 12 noon.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

May 23.—By PIERCE & THORPE (at Northampton).
Spratton, Northants.—Two farms, 39 a. 0 r. 18 p., f. £3,650
Brixworth, Northants.—Merry Tom Farm, 98 a. 0 r. 27 p., f. 2,500
A freehold farm, 14 a. 1 r. 18 p. 1,210
Hollowell, Northants.—The "Red Lion" b.-h., three cottages, and blacksmith's shop, f. 360

By Messrs. KEMSLEY (at Romford).
Upminster, Essex.—1 to 6, Ingrebourne-cottages, f. 755
Cranham-lane, two copyhold cottages 300
Barking, Essex.—1 to 5, Warrego-cottages, f. 1,000

By RALPH APPLETON (at Stockton-on-Tees).
Norton, Durham.—Ragworth Farm, 93 a., f. 7,200
May 24.—By PIERCE & THORPE (at Bozeat).
Bozeat, Northants.—Wyke's Farm, 80 a. 3 r. 1 p., f. 1,500
The Town Farm, 69 a. 0 r. 15 p., f. 900
Five freehold cottages 455
Rose's Pan Closes, 6 a. 2 r. 7 p., f. 400

By PIERCE & THORPE (at Olney).
Olney, Bucks.—Hatch Green Farm, 7 a. 0 r. 33 p., f. 675
A Freehold Close, 4 a. 1 r. 10 p., f. 330

By G. NICHOLS, HOWES, & Co. (at Bristol).
Speedwell, &c., Gloucestershire.—The Kingswood and Parkfield Colleries, surface area 32 acres, f., with machinery, plant, &c. (as a going concern) £61,000
Eight Freehold Cottages 565
A Piece of Building Land, 6 a. 1 r. 4 p., f. 1,100
Accommodation Land, 6 a. 3 r. 0 p., f. 950
Holmes Hill Quarry, 0 a. 1 r. 0 p., f. 100
Bristol, Gloucestershire.—Midland-rd., Freehold Office Property with Stabling adjoining, g.r. 15*l.* 1,040
20, Willway-st., f. 200

By BELCHER & SON (at Birmingham).
Wednesbury, Staffs.—Allen's Farm, 39 a. 3 r. 17 p., f. 2,000
Two closes of land, 7 a. 2 r. 8 p., f. 520

By GRAVES & SON (at Southam).
Long Itchington, Warwick.—High Clay's Farm, 43 a. 3 r. 6 p., f. 650
The Ash Pole Spinney, 6 a. 2 r. 16 p., f. 175

By STEPHENSON & ALEXANDER (at Cardiff).
Cardiff, Glamorgan. — Newport-rd., Singleton House, u.t. 56 yrs., g.r. 8*l.* 2,400
91 to 97 (odd), Clive-rd., u.t. 95 yrs., g.r. 18*l.* 700

By S. WALKER & SON (at Torquay).
Torquay, Devon.—Cricket Ground-lane, two building sites, 3 r. 34 p., f. 200
Cedar-rd., a plot of building land, 1 a. 3 r. 2 p., f. 800
Lincombe Drive, a freehold building estate, 35 a. 1 r. 3 p. 6,000
Ilsham-rd, two blocks of building land, 26 a. 2 r. 30 p., f. 3,550
Petit Tor-rd, a block of building land, 4 a. 3 r. 16 p., f. 750
St. Mary Church, two cottages and 26 p., f. 175
Newton-rd., a plot of land, 1 a. 3 r. 7 p., f. 850
May 25.—COOK & BIRMINGHAM (at Exeter).
Cullompton, Devon. — Whiteheathfield and Poundapit Farms, 305 a. 1 r. 0 p., f. 7,350
Hele, Devon.—"The Railway Hotel," f.g.r. 1*l.* 7s., reversion in 20 yrs. 385
May 26.—By BRUTON, KNOWLES, & Co. (at Gloucester).
Malswick, Gloucestershire.—Rymes Place Estate, 129 a. 3 r. 2 p., f. 2,350
Little Allisons, and 2 a. 1 r. 34 p., f. 150

By G. BOGGIS (at Colchester).
Great Horkesley, Essex.—The Rookery Lodge Farm, 110 a. 1 r. 1 p., f. 925

By RAWLINS & Co. (at Romford).
Romford, Essex.—Erroll-rd., &c., 68 plots of building land, f. (in lots) 4,360

By STEPHENSON & ALEXANDER (at Bridgend).
Llansanor, Glamorgan.—Pantyslon Farm, 34 a. 0 r. 5 p., f. 1,350
St. Bride's Major, Glamorgan. — Castle-upon-Alum Farm, 150 a. 0 r. 23 p., c. 5,000
May 28.—By A. T. BARBER & Co.
Windsor, Berks.—Dorset-rd., St. Leonard's Villa, f., e.r. 70*l.* 1,475

By ELLIOTT, SON, & BOYTON.
Kilburn.—98, Canterbury-rd., u.t. 59 yrs., g.r. 6*l.* 5s., r. 49*l.* 450

By HINDLEY & WILKINSON.
Gunville Tarrant, Dorset. — A perpetual rent-charge of 214*l.* 12s. 9d. per annum 4,400

By MONTAGU & ROBINSON.
Brockley.—104, Wickham-rd., u.t. 77 yrs., g.r. 10*l.* 740
Stratford. — 18 and 18a., Maryland-rd., area 7,400 ft., f. 1,320

By J. C. PLATT.
Hammersmith.—243 and 245, Hammersmith-rd.; also the "Wheatsheaf" b.-h., f. 12,500
5, The Grove, f., r. 45*l.* 820
Mansion House-st., c.g.r. 8*l.* 10s., reversion in 66 yrs. 220
Acton.—55 and 57, Bollo Bridge-rd., f. 515

By VENTOM, BULL, & COOPER.
Minories.—No. 145, area 1,600 ft., a building lease for 80 yrs., let at per annum 165

By WOODS & SNELLING.
Richmond, Surrey.—71, Kew-rd., f., r. 55*l.* 1,460

By EDWARD WOOD.
Hornsey.—43, Alexandra-rd., u.t. 77 yrs., g.r. 6*l.* 10s., r. 38*l.* 380
5, Linzee-rd., u.t. 97½ yrs., g.r. 8*l.* 8s., r. 38*l.* .. 360
Islington.—22 and 23, Alfred-st., u.t. 26 yrs., g.r. 10*l.* 530
Harlesden.—6, Casselden-rd., u.t. 78½ yrs., g.r. 7*l.*, r. 35*l.* 280
Hammersmith.—140, Dalling-rd., u.t. 58 yrs., g.r. 5*l.*, r. 36*l.* 325
Battersea.—70, Plough-rd., u.t. 78½ yrs., g.r. 8*l.*, r. 40*l.* 270
Merton.—Raynes Park-rd, Randall Lodge, u.t. 96 yrs., g.r. 10*l.*, r. 45*l.* 175
Littleton, Middlesex.—1 and 2, Percy-cottages, f. 305
Pimlico.—18, Alderney-st., u.t. 28½ yrs., g.r. 8*l.*, r. 56*l.* 455
8 and 9, Stanley-pl., u.t. 28½ yrs., g.r. 16*l.*, r. 89*l.* 610
Fulham.—12 and 16, Moore Park-rd., u.t. 56 yrs., g.r. 7*l.* 5s., r. 64*l.* 665
Battersea.—38, Lavender-d., u.t. 38¼ yrs., g.r. 4*l.* 10s. 225

By GREEN & SON (at Hammersmith).
Hammersmith.—103, Hammersmith-rd., u.t. 22 yrs., g.r. 5*l.*, e.r. 150*l.* 750
25, Brook Green-rd., c., r. 26*l.* 850
24 and 26, Rowan-rd., u.t. 45 yrs., g.r. 6*l.* 6s. .. 670
26 and 28, Faroe-rd., f. 770
5 and 6, George-st., u.t. 15 yrs., g.r. 10*l.*, r. 56*l.* 300
Bridge-avenue, Avenue House, u.t. 57 yrs., g.r. 15*l.*, e.r. 120*l.* 1,210
South-place, &c., i.g.r. 40*l.*, u.t. 8½ yrs., g.r. 8*l.* 8s. 185

By NORMAN & SON (at Stratford).
Forest Gate.—30 and 48, Earlham-grove, f., r. 86*l.* 1,650
84, Dames-rd., f. 345
Stratford.—39 and 39a, Edith-rd., f. 455
May 29.—By ARBER, RUTTER, WAGHORN, & BROWN.
Hyde-pk.—84, Westbourne-ter., u.t. 37 yrs., g.r. 54*l.* 19s., r. 211*l.* 2,080
Maida Vale.—37, Warrington-cres., u.t. 58¾ yrs., g.r. 26*l.*, r. 105*l.* 1,000

By H. DONALDSON & SON.
Finsbury-pk.—6, Upper Tollington-pk., u.t. 67½ yrs., g.r. 7*l.* 7s., e.r. 45*l.* 450
Dalston.—45 and 47, Richmond-rd., u.t. 12¾ yrs., g.r. 8*l.* 240
Kingsland.—46, Lee-st., u.t. 18¾ yrs., g.r. 3*l.* £180
City-rd.—30, Remington-st., u.t. 24½ yrs., g.r. 6*l.*, r. 42*l.* 245

By FIELD & SONS.
Bermondsey.—15 to 18, Grange-rd.; and 15 to 35, Wood's-pl., area 10,700 ft., f. 3,800
1 to 10, Wood's-pl., area 4,000 ft., f. 1,900
Wandsworth.—Dingwall-rd., f.g.r. 15*l.*, reversion in 88 yrs. 380
Bermondsey.—17, Bermondsey Wall, f., r. 150*l.* .. 2,510
Gravesend, Kent.—Salem cottages, i.g.r. 6*l.* 10s., u.t. 948 yrs., g.r. nil 175
Lee.—339 and 341, High-rd.; also i.g.r. 2*l.*, u.t. 12½ yrs., g.r. 6*l.* 280

By GIDDY & GIDDY.
Regent's Pk.—17, Hanover-ter., and 17, Hanover-ter.-mews, u.t. 21 yrs., g.r. 34*l.* 13s. 1,250

By J. GRIFFIN & SON.
Thornton Heath, Surrey.—Beulah-rd. north, &c., f.g.r.'s. 39*l.* 10s., reversion in 84 yrs. 910

By DRIVERS (Holloway).
Holloway.—53 and 54, Loraine-rd., f. 1,585
27 and 41, Rhodes-st., u.t. 58 yrs., g.r. 8*l.* 8s. .. 370
Limehouse.—17, Maroon-st., u.t. 17½ yrs., g.r. 2*l.* 12s. 6d. 130
Mile End.—13, Lockhart-st., u.t. 62 yrs., g.r. 5*l.* 300
Camden Town.—31, Torriano-av., u.t. 44 yrs., g.r. 9*l.*, e.r. 55*l.* 445
St. George's East.—111 and 113, Cable-st., u.t. 20½ yrs., g.r. 10*l.*, r. 56*l.* 255

By HAMPTON & SONS.
Wimbledon.—126, Worple-rd., f. 1,260
51, Kingswood-rd., f., r. 40*l.* 770
Belgravia.—5, Wilton-cres., beneficial lease for 12 yrs., r. 300*l.* 1,200

By F. WARMAN.
Bayswater.—2, Pembridge-pl., u.t. 43 yrs., g.r. 13*l.* 4s. 1,510

By FOLEY, SON & MUNDY (at Trowbridge).
South Wraxall, Wilts.—Mison's Farm, 92a. 3r. 3p., f. 2,700
Three closes of arable, 13a. 0 r. 36p., f. 314
Rose Villa, and 3r. 19p., f. 364

By CHARLES GRIFFITH, JUNR. (at Hay).
Clifford, Hereford.—The Hill Farm, 43a. 0 r. 34 p., f. 1,000
The Paddock Farm, 97 a. 0 r. 26 p., f., ... 2,200
Three pieces of pasture, 11 a. 3 r. 26 p., f. 450

By STEPHENSON & ALEXANDER.
Cardiff, Glamorgan.—Penarth-rd., a freehold building site, area 586 yards 3,500

By FLEURET, SONS, & ADAMS (at Masons' Hall Tavern).
Plumstead, Kent.—Plumstead Common-rd., "The Fox and Hounds" p.-h., u.t. 47 yrs., r. 100*l.*, with goodwill 11,900

By WILLIAM ROLFE (at Masons' Hall Tavern).
Canonbury. — Grosvenor-rd., "The Grosvenor" p.-h., u.t. 34 yrs., r. 100*l.*, with goodwill 12,800
May 30.—By J. CARTER, JONAS, & SONS (at Cambridge).
Newnham, Cambs.—Grantchester-rd., a freehold building estate, 15 acres 4,650

By T. H. NEWMAN (at Braintree).
Great Saling, Essex.—A butcher's shop, cottage, slaughter-house, &c., f. 128

By A. BURTENSHAW & SON (at Hailsham).
Hailsham, Sussex.—17, 18, 19, and 20, Rose-ter., f. 1,005
May 31.—By J. W. HODGES.
Welling, Kent.—2, High-st., f., e.r. 40*l.* 535

By J. F. STONEHEWER.
St. John's Wood.—19, Norfolk-rd., u.t. 34 yrs., g.r. 14*l.*, r. 70*l.* 500
Fulham.—91, Dawes-rd., u.t. 85 yrs., g.r. 8*l.* 8s., r. 36*l.* 350
Battersea.—11 and 13, Plough-rd., u.t. 66 yrs., g.r. 15*l.* 500

By C. C. & T. MOORE.
Mile End.—14, 15, and 16, Monsey-st., u.t. 70 yrs., g.r. 10*l.* 15s. 1,050
83 to 91 (odd), Cephas-st., u.t. 29½ yrs., g.r. 15*l.* 1,525
Cephas-st., a plot of land with building thereon, area 2,500 ft., u.t. 30 yrs., g.r. 4*l.* 320
1, 3, and 5, Calverley-st., u.t. 44 yrs., g.r. 15*l.* 15s. 790
Peckham.—38, Clifton-rd., f., r. 30*l.* 390
Bethnal Green.—6, 7, 8, and 9, Manchester-bldgs., f. 620
Canning Town.—19, 21, and 23, Queen's-rd., u.t. 57½ yrs., g.r. 12*l.* 350
Walthamstow.—12 to 22 (even), Colebrooke-rd., u.t. 76½ yrs., g.r. 19*l.* 10s. 1,200
Forest Gate.—22, Station-rd., f., r. 29*l.* 385
29, Disraeli-rd., f., e.r. 32*l.* 450

By NEWBON, EDWARDS, & SHEPHARD.
Kingsland.—46 to 54 (even), Mansfield-st., f., r. 180*l.* 2,720
St. Albans, Herts.—St. Peter's-st., "The Queen Adelaide Tavern," &c., f.g.r. 30*l.*, reversion in 33½ yrs. 1,330
Clerkenwell.—Red Lion-yard, a building site, area 1,772 ft., f. 1,050
Stockwell.—80 and 82, Studley-rd., u.t. 38 yrs., g.r. 7*l.*, r. 88*l.* 850
Holloway.—89, Holloway-rd., u.t. 35 yrs., g.r. 5*l.*, r. 62*l.* 505
37, Gloucester-rd., u.t. 52 yrs., g.r. 8*l.*, r. 32*l.* .. 280
25, Landseer-rd., u.t. 58 yrs., g.r. 6*l.* 6s., r. 31*l.* 325
Harringay.—45, Wightman-rd., u.t. 84½ yrs., g.r. 7*l.* 7s., e.r. 34*l.* 420
Old Ford.—53, Roman-rd., f., r. 40*l.* 855

By STIMSON & SONS.
Bermondsey.—105 to 113 (odd), Long-lane, f., r. 161*l.* 3,005
Long-lane, "The George" b.-h., f., r. 60*l.* 2,020
Clapham.—21, Clapham Park-rd., f., e.r. 50*l.* 750
20 and 21, Carfax-square, u.t. 74 yrs., g.r. 10*l.* .. 455
61, Fentiman-rd., u.t. 28 yrs., g.r. 6*l.*, r. 45*l.* .. 415
Camberwell.—14 and 15, Ulric-st., u.t. 25 yrs., g.r. 5*l.* 5s., r. 40*l.* 315
96 and 98, Cambridge-st., u.t. 51 yrs., g.r. 9*l.* .. 600
Peckham.—2, Telfourd-pl., u.t. 67 yrs., g.r. 6*l.*, e.r. 36*l.* 320
Wandsworth-rd.—181, Stewart's-rd.; and 11, Milton-st., u.t. 77 and 9 yrs., g.r. 9*l.* 10s. 575
Tooting.—24, Chetwood-rd., u.t. 79½ yrs., g.r. 6*l.* 10s., r. 27*l.* 280
Dulwich.—19 and 20, South Croxted-rd., u.t. 56 yrs., g.r. 16*l.*, r. 64*l.* 625

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
*Asylum at Whitchurch	Cardiff Corporation	100 Guineas	Aug. 25

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c., Supplied by	Tenders to be delivered
Additions, &c., to Watson Mills, Sowerby Bridge	.....	W. C. Williams, Architect, 29, Southgate, Halifax	June 9
Additions to Shop, &c., Swaffham	Co-operative Society	E. A. Coe, Co-operative Stores, Swaffham	do.
Factory, Long Eaton	Trustees of J. C. Willatt	J. Sheldon, Architect, Darley House, Long Eaton	June 11
Seven Houses, Esk Bank-street, Longtown, Carlisle	.....	H. H. Hodgkinson, Architect, Scotch-street, Carlisle	June 12
Alterations, &c., to Public Baths, Townhead	Glasgow Corporation	J. Lindsay, City Chambers, Glasgow	do.
Public Works Depot, Harrowby-street	Cardiff Corporation	W. Harpur, Civil Engineer, Town Hall	June 13
*Alterations to the Fruit and Vegetable Market	Brighton County Council	Borough Engineer, Town Hall, Brighton	June 14
House, Gorleston	Great Yarmouth Guardians	A. S. Hewitt, Architect, King-street, Great Yarmouth	do.
Additions to Workhouse, Huddersfield-road	Dewsbury Guardians	J. Firth & Son, Architects, 67, Vulcan-road, Dewsbury	do.
Warehouses, &c., Clay Pits-lane, Halifax	.....	Utley & Co., Architects, 10, Waterhouse-street, Halifax	do.
Foundations, &c., Factory-lane	Croydon Town Council	E. Mawdesley, Town Hall, Croydon	do.
*Laundry Machinery and Fittings	West Ham County Council	G. Wise, Works Manager, Quadrant-street, Canning Town, E.	June 15
Refuse Destructor	Grimsby Corporation	Town Clerk, St. Mary's Gate, Great Grimsby	do.
Twenty-four Houses, Thornton Lodge, Huddersfield	.....	A. Shaw, Architect, Knowl, Golcar	do.
Bakery, Stables, &c., Gadlys, Aberdare	.....	J. L. Smith, Architect, Aberdare	do.
Three Pairs of Villas, Black Rock, Brighton	.....	J. M. Ferguson, Architect, 8, Quality-court, Chancery-lane, E.C.	June 16
Police Houses, Price-street, &c.	.....	F. & G. Holme, Architects, 1, Crosshall-street, Liverpool	do.
Additions to School, Falmouth	Birkenhead Corporation	W. Swift, Architect, 38, Lemon-street, Truro	June 18
Restoration of Church, Castlemagner, co. Cork	.....	W. H. Hill & Son, Architects, 28, South-mall, Cork	do.
Underground Conveniences, Church-street	.....	W. Stubbs, Civil Engineer, Municipal Offices	do.
Cottage, &c., Fisher Tarn Reservoir	Blackburn Corporation	T. N. Ritson, Civil Engineer, Gasworks, Kendal	do.
*Construction of Carr Bottom Reservoir	Kendal Town Council	M. Paterson, Engineer, 35, Manor-row, Bradford	do.
*Hot-Water Heating of Schools	Burley-in-Wharfedale U.D.C.	Board Room, Quarry Hill, Grays	June 19
Additions to School, Ovenden, Yorks	Grays Thurrock School Board	M. Hall, Architect, 29, Northgate, Halifax	do.
Police Station, Yealand Conyers, near Carnforth	.....	H. Littler, Architect, County Offices, Preston	do.
Police Station, &c., Laygate-lane	Standing Joint Committe	T. E. Burgess, Civil Engineer, Chapter-row, South Shields	do.
*Reparation of Sewers (3 years)	South Shields Corporation	Engineer, Guildhall	do.
*Stone Paving (3 years)	Corporation of London	do.	do.
*Kerbing, Paving, &c.	do.	Surveyor's Department, Town Hall, Catford, S.E.	do.
*Laying-out Grounds, Grove Hospital	Lewisham Board of Works	H. E. Milner & Son, Architects, 7, Victoria-street, S.W.	June 20
School, Deal, Kent	Metropolitan Asylumns Board	C. L. Crowther, Architect, Deal	do.
Police Buildings, Preston	.....	H. Littler, Architect, County Offices, Preston	do.
*Building Repairs, &c., at Infirmary, Marloes-road	Lancs. Standing Joint Committee	E. Flint, Architect, 80, Coleman-street, E.C.	June 21
Hospital and Two Cottages, Storthes Hall Asylum	Kensington Guardians	J. V. Edwards, County Surveyor, Wakefield	do.
Residence, Bargate, Grimsby	.....	G. W. Davis, Architect, Victoria-chambers, Grimsby	do.
*Hospital and Cottage Homes	.....	Room 54, County Hall, Wakefield	do.
Eight Houses, Kitchener-road, &c.	West Riding County Council	J. W. Cockrill, Surveyor, Town Hall, Great Yarmouth	June 22
*Hydraulic Plant for Making Concrete Slabs	Great Yarmouth U.S.A.	G. W. Holmes, Engineer, Town Hall, Walthamstow	do.
*Schools	Walthamstow U.D.C.	S. J. Adams, Weston Chambers, Weston-road, Southend-on-Sea	June 25
*Public Offices	Northfleet School Board	T. H. Watson, Architect, 9, Nottingham-place, W.	do.
*Electricity Buildings	Hendon U.D.C.	Borough Surveyor, Town Hall, Sutton Coldfield	June 26
*Paving	Sutton Coldfield Corporation	W. H. Mansbridge, Surveyor, 40, High-street, Barnet	do.
*Precipitating Tanks, &c.	Barnet U.D.C.	do.	do.
Additions, &c., to School, Courtney-street	do.	Brodrick & Co., Architects, 77, Lowgate, Hull	do.
*Water Supply, Drainage, and Steam Boiler, Mitcham	Kingston-upon-Hull School Board	John Buley, Engineer, Suffolk House, E.C.	do.
*Drainage Works	Holborn Guardians	J. Simmons, Engineer, Bank Chambers, Doncaster	do.
*Bascule Bridge	Romford R.D.C.	City Engineer, Town Hall, Hull	June 29
Reservoir, Crookfoot	Hull Corporation	Martin & Fenwick, Civil Engineers, 1, Park-place, Leeds	do.
Shelters, &c., Smithfield	Hartlepool Gas and Water Co.	R. E. Lloyd, Council Offices, Ellesmere	July 4
*Filters, Tanks, &c., for Sewage Disposal	Ellesmere (Salop) U.D.C.	Borough Surveyor, Taunton	July 5
*Superstructure of New Asylum	Taunton Corporation	See Advertisement	July 16
*Board Schools at Draycott, near Derby	.....	F. S. Antliff, Architect, Draycott, Derby	No date
*Boilers, Steam Valves, &c.	.....	H. D. Pearson, Architect, 27, Chancery-lane, W.C.	do.
Hall, Ballymacarrett, Ireland	Fulham Vestry	D. M. Cooper, Architect, 23, Donegall-place, Belfast	do.
Hotel, Barry, Glam.	.....	T. Thornley, Architect, Cardiff	do.
Additions to Shop, &c., Shankhill, Belfast	.....	J. B. Robinson, Architect, 21, Arthur-street, Belfast	do.
Farmhouse, Shippon, near Preston	Mr. F. N. Shane	W. J. Lomax, Architect, 11, Fold-street, Bolton	do.
Extension of Works, Oldham	.....	Arthur Turner, Architect, 26, Clegg-street, Oldham	do.
Warehouse, Stable, &c., Providence-st., Wakefield	.....	W. Wrigley, Architect, 6, Westgate, Wakefield	do.
*Tramp Wards and Infirmary	.....	E. H. Tingen Barker, Architect, 146, St. Owen's-street, Hereford	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*Clerk of Works	Fulham Vestry	4*l.* 4s. per week	June 13
*Clerk of Works	.....	3*l.* 3s. per week	June 15
*Clerk of Works	Joint Hospital Board	3*l.* 3s. per week	June 18
*Assistant	Great Western Railway	400*l.* per annum	June 21
*Clerk of Works	Latham and Burscough U.D.C.	3*l.* per week	June 25
*County Bridgemaster	Lancashire County Council	600*l.* per annum	do.

Those marked with an asterisk (*) are advertised in this Number. *Competitions, p.* iv. *Contracts, pp.* iv. vi. viii. x. *&* xxi. *Public Appointments, pp.* xviii. *&* xxi.

Streatham.—83, Gleneagle-rd., u.t. 81¾ yrs., g.r. 14*l.* 5s., r. 61*l.* 8s. £470

June 1.—By ALFRED PREECE.

Kentish Town.—33, Carlton-st., u.t. 51½ yrs., g.r. 5*l.*, r. 34*l.* 300

Highbury.—3, Highbury Grange, u.t. 18 yrs., g.r. nil., e.r. 100*l.* 560

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard.

PRICES CURRENT OF MATERIALS

WOOD.*

Per Petersburg standard hundred.

	£	s.	d.	£	s.	d.
White Sea: first yellow deals	18	0	0	22	10	0
Second do.	16	0	0	18	0	0
Third do.	13	0	0	14	10	0
Battens, 4os., 3os., and 25s. less respectively.						
Petersburg: first yellow deals	15	0	0	18	0	0
Second do.	12	10	0	14	0	0

* The prices named are for the wood as imported and landed in the docks. Ten per cent., approximately, should be added in order to arrive at the current trade prices.

PRICES CURRENT (*Continued*).

	£	s.	d.	£	s.	d.
Battens, 3os. and 2os. less respectively.						
Petersburg, white deals	12	0	0	15	0	0
Do. white battens	10	10	0	11	10	0
Riga, white deals	10	0	0	11	10	0
Swedish mixed yellow deals	16	10	0	21	0	0
,, Third do.	14	10	0	17	0	0
,, Fourth do.	13	0	0	14	10	0
,, Fifth do.	12	0	0	13	10	0
Battens, 3os., 2os., and 1os. less respectively.						
Whitewood, 10 to 20 per cent. less.						
Finnish unsorted yellow deals	11	10	0	12	10	0
Battens, 1os. and 5s. less respectively.						
Whitewood, 5 to 10 per cent. less.						

PRICES CURRENT (*Continued*).

	£ s. d.	£ s. d.
Norwegian second yellow battens...	8 0 0	8 15 0
Third do.	7 10 0	8 10 0
Fourth do.	7 10 0	7 15 0
Whitewood, 10s. less.		
Danzig, Crown Deck deals, per 40 ft. 3 in.....	0 15 0	1 5 0
Brack	0 12 0	1 0 0
St. Lawrence Pine deals, &c., per P.S.H. :—		
1st, Bright and Dry, regular sizes	21 0 0	28 0 0
" " oddments ..	14 10 0	22 0 0
2nd " regular sizes	16 10 0	19 0 0
" " oddments ..	11 0 0	15 10 0
3rd, " regular sizes	10 10 0	11 10 0
" " oddments ..	9 0 0	10 0 0
4th " regular sizes	9 10 0	10 10 0
" " oddments ..	8 10 0	9 10 0
St. Lawrence Spruce deals, &c.		
First, regular sizes.....	11 10 0	13 10 0
Second "	10 5 0	10 15 0
Third "	10 0 0	10 5 0
Fourth "	9 10 0	10 0 0
Oddments and battens at 20s., 10s., 7s. 6d., and 5s. less respectively.		
New Brunswick Spruce deals, &c.	10 0 0	11 5 0
Oddments, battens, and fourths ..	9 10 0	10 0 0
United States pitch pine planks and boards	11 0 0	15 0 0
Prepared Boards, per square		
1¼ by 6½ and 7 in. 1st yellow	11 6	16 3
" " 2nd "	11 0	13 3
1 by 6½ and 7 in. 1st "	10 6	12 3
" " " white	9 6	10 3
" " 2nd yellow	9 6	11 3
" " " white	8 6	9 3
¾ by 6½ & 7 in. 1st & 2nd yellow	8 3	9 3
" " " white	8 0	8 9
¾ by 6½ and 7 in. 1st yellow and white (grooved, tongued, and beaded).....	9 0	9 9
¾ by 6½ and 7 in. 2nd yellow and white (ditto).....	8 0	8
¾ by 6½ and 7 in. 1st yellow and white (ditto).....	7 0	7 9
¾ by 6½ and 7 in. 2nd yellow and white (ditto).....	6 6	7 3
Narrower widths at 10 per cent. less. 3rd quality at 15 per cent. less than 2nd.		
Danzig and Memel Fir Timber— per load		
Best middling	4 0 0	4 5 0
Good middling and Second.....	3 7 6	3 15 0
Common middling.....	3 2 6	3 10 0
Undersized	3 2 6	3 12 6
Swedish and Norwegian Balks	2 12 6	3 0 0
Baltic Oak Timber—		
Danzig and Stettin—Large.....	4 0 0	5 15 0
Small.....	3 7 6	4 5 0
Quebec Timber per load		
Yellow Pine.....	4 17 6	6 10 0
Oak	4 7 6	6 10 0
Elm	4 0 0	4 5 0
Ash	3 5 0	4 0 0
Birch.....	3 7 6	5 15 0
New Brunswick, &c., Birch	3 5 0	4 0 0
American Pitch Pine Timber.....	3 12 6	4 17 6
Wainscot, per log, 18 cubic ft.—		
Crown (Eng. & Dutch) } nominal {	3 15 0	5 0 0
Brack ..... }	3 2 6	4 0 0
Lathwood, per cubic fathom—		
Petersburg	4 0 0	6 10 0
Riga and Danzig	4 10 0	5 10 0
Norway Poles, per ft. run	0 0 1	0 0 1½
Oak Staves, per mille full size pipe		
Memel, Crown	220 0 0	230 0 0
Brack	190 0 0	200 0 0
Danzig	165 0 0	175 0 0
Bosnia, single Barrel (nominal)..	28 0 0	30 0 0
United States, Pipe	37 10 0	45 0 0
Hogshead, extra heavy and double extra	30 0 0	35 0 0
Indian Teake .....per load	11 10 0	16 5 0
British Guiana Greenheart	0 0 0	8 0 0
Mahogany, per foot superficial—		
Honduras, cargo average	0 0 4½	0 0 5½
Nicaragua, do.	0 0 4½	0 0 5½
Tabasco, do.	0 0 4½	0 0 6
Mexican, do.	0 0 4	0 0 4½
Panama, do.	0 0 3½	0 0 4
African, do.....	0 0 3½	0 0 5
Cuba, do	0 0 6	0 0 8
St. Domingo, do.	0 0 5	0 0 7½
Do. Curls (good to prime)	0 0 9	0 1 3
Walnut, American (logs).....	0 3 0	0 5 0
Do. do. (planks and boards)	0 2 0	0 7 6
Italian, per foot superficial	0 0 3	0 0 7½
Black Sea, per ton.....	6 0 0	12 0 0
Satin Walnut (logs) per foot cube..	0 1 0	0 1 6
" (planks and boards)	0 1 9	0 3 0
Sequoia (Californian redwood), per foot cube	0 1 9	0 2 0
Whitewood, American .....(logs)	0 1 4	0 1 9
" " (planks and boards)..	0 1 9	0 2 9
Quartered oak " " " ..	0 2 3	0 4 0
Kauri pine.....(logs)	0 1 9	0 2 0
" " .....(planks)	0 2 3	0 2 9
Jarrah .....(planks)	0 2 0	0 2 3
Lancewood spars each, fresh and large	0 5 0	0 7 0
Lancewood spars, ordinary to fair..	0 3 0	0 4 0
Degame spars.....	0 8 0	0 10 0

METALS.

	£ s. d.	£ s. d.
IRON—Pig, in Scotland ..... ton	3 6 9	0 0 0
Bar, Welsh, in London	9 0 0	9 15 0
Do. do. at works in Wales.....	8 10 0	9 0 0
Do. Staffordshire, in London....	9 15 0	11 15 0
COPPER British cake and ingot ..	76 0 0	76 10 0
Best selected	77 0 0	77 10 0
Sheets, strong.....	84 0 0	0 0 0
Chili bars.....	72 5 0	72 10 0
YELLOW METAL .....lb.	6½d.	7d.
LEAD—Pig		
Spanish .....ton	17 5 0	0 0 0
English Com. Brands	17 12 6	0 0 0
Sheet, English, 6 lbs. per sq. ft. and upwards	19 2 6	0 0 0
Pipe	19 12 6	0 0 0

PRICES CURRENT (*Continued*).

	£ s. d.	£ s. d.
ZINC—		
Vieille Montagne ..... ton	28 15 0	0 0 0
Silesian.....	28 5 0	0 0 0
Spelter	21 15 0	0 0 0
TIN—Straits	143 0 0	0 0 0
Australian	145 0 0	0 0 0
English Ingots	148 0 0	0 0 0
Banca	0 0 0	0 0 0
Billiton	0 0 0	0 0 0

ENGLISH SHEET GLASS IN CRATES.

1 oz. thirds	2½d. per ft. delivered.
" fourths	2d. " "
21 oz. thirds	3d. " "
" " fourths.....	2½d. " "
26 oz thirds	4d. " "
" " fourths	3½d. " "
32 oz. thirds	5d. " "
" " fourths	4½d. " "
Fluted sheet, 15 oz.	2½d. " "
" " 21 "	3½d. " "

OILS, &c.

	£ s. d.	£ s. d.
Raw Linseed Oil in pipes, per ton..	36 0 0	0 0 0
" " " in drums, per gal.	0 3 0	0 0 0
Boiled " " in pipes, per ton..	38 0 0	0 0 0
" " " in drums, per gal.	0 3 2	0 0 0
TAR—Stockholm.....barrel	1 6 6	0 0 0
Archangel..	1 0 0	0 0 0
Turpentine, in barrels, per cwt. ..	2 6 0	0 0 0
" in drums, per gal.	0 3 8	0 0 0
Genuine Ground English White Lead	26 0 0	0 0 0
Red Lead	22 0 0	0 0 0
Best Linseed Oil Putty, per cwt. ..	0 8 0	0 0 0

VARNISHES, &c.

	per gallon.
Fine Elastic Copal Varnish for outside work ..	0 16 0
Best Elastic Copal Varnish for outside work ..	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 0
Best Hard Oak Varnish for inside work	0 10 0
Best Extra Hard Church Oak Varnish for inside work	0 10 0
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work....	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 8 0
Brunswick Black	0 8 0
Berlin Black	0 15 6
Knotting	0 9 0
Best French and Brush Polish	0 8 6

BRICKS, &c.

	s. d.	
Hard Stocks	32 0	per thousand alongside, in river.
Rough Stocks and Grizzles.....	28 0 "	" " "
Smooth Bright Facing Stocks..	58 0 "	" " "
Shippers	42 0 "	" " "
Flettons.....	29 0 "	" at railway depôt.
Red Wire Cuts ..	34 0 "	" " "
Best Fareham Red	71 6 "	" " "
Best Blue Pressed Staffordshire ..	86 0 "	" " "
Best Stourbridge Fire Bricks	84 0 "	" " "
Best White Glazed Stretchers... ..	260 0 "	" " "
Headers	240 0 "	" " "
Quoins and Bull-nose	340 0 "	" " "
Double Headers..	320 0 "	" " "
Best Dipped Salt Glazed Stretchers and Headers ..	240 0 "	" " "
Quoins and Bull-nose	280 0 "	" " "
Double Headers..	230 0 per thousand at railway depôt.	
Seconds Quality White and Dipped Salt Glazed	40 0 per thousand less than best.	
Thames and Pit Sand	7 0 per yard, delivered	
Thames Ballast	6 6 " "	
Best Portland Cement	35 0 per ton "	
Best Ground Blue Lias Lime..	23 0 " "	

NOTE.—The cement and lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime ..... 12s. od. per yard, delivered.
Stourbridge Fire-clay in sacks, 31s. 6d. per ton at rly. dpt.

STONE.

	s. d.	
Ancaster in blocks	2 0	per ft. cube, deld. rly. depôt
Bath "	1 7	" "
Beer "	1 6½	" "
Grinshill "	1 10	" "
Brown Portland in blocks	2 2	" "
Darley Dale "	2 1½	" "
Red Corsehill "	2 5	" "
Red Mansfield "	2 4½	" "
Hard York "	2 10	" "

Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	2 7	per ft. super at rly. depôt.	
" " 6 in. Rubbed Ditto..	2 10½	"	"
" " 3 in. sawn both sides slabs (random sizes)	1 3	"	"
" " 3 in. self-faced Ditto	0 9	"	"

SLATES.

in. in.	£ s. d.	
20×10 best blue Bangor..	11 5 0	per 1000 of 1200 at ry. dep.
" best seconds "	10 15 0	" "
16× 8 best "	6 2 6	" "
20×10 best blue Portmadoc	10 18 0	" "
16× 8 " "	6 0 0	" "
20×10 best Eureka unfading green.....	11 2 6	" "
16× 8 " "	6 15 0	" "

PRICES CURRENT (*Continued*).

	£ s. d.	
20×10 Permanent green and Sedan green	10 0 0	per 1,000 of 1,200 at ry.dep.
16× 8 " "	5 12 6	" "

TILES.

	s. d.	
Best plain red roofing tiles..	41 0	per 1,000 at rly. depôt.
Hip and valley tiles....	3 7	per doz. " "
Best Broseley tiles	48 0	per 1,000 " "
Hip and valley tiles....	4 0	per doz. " "
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000 " "
Do. ornamental Do.	60 0	" " "
Hip tiles.....	4 0	per doz. " "
Valley tiles.....	3 9	" " "
Best Red or Mottled Staffordshire Do. (Peakes) .	50 9	per 1,000 " "
Hip tiles	4 1	per doz. " "
Valley tiles.....	3 8	" " "

TO CORRESPONDENTS.

P. H. (We cannot print your letter, as we consider it totally uncalled for). A. S.—J. & M. (Amounts should have been stated).

NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.

We cannot unaertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

AVONWICK (Devon).—For additions to house, Dipt-ford Downs, for Mr. J. S. Bartlett. Mr. Wm. Barrons, architect :—

Reeves & Sons £374 12	Yabsley & Hodge ..£351 15
Pearce & Crimp .. 365 6	

BARNSLEY.—For the erection of the Cooper Nurses' Home, Beckett Hospital. Messrs. R. & W. Dixon, architects, 5, Eastgate, Barnsley :—

Masonry, Brickwork, and Ironfounding.
Taylor & Sons, Barnsley £1,926 0 0
Concreting.
John Cooke, Huddersfield..... 113 8 4
Carpentry and Joinery.
W. G. & L. England, Barnsley 595 0 0
Plumbing, Glazing, and Electric Bells.
S. Rushforth, Barnsley 215 5 0
Slating and Plastering.
M. Fleming, Barnsley 194 0 0
Painting.
Stephenson & Son, Barnsley..... 28 0 0
Heating and Hot-Water Supply.
Hutchinson Bros., Barnsley..... 221 0 0

BETTWS-Y-CRWYN (Salop).—For the enlargement of school buildings at "Weals," for the School Board. Mr. Richard Parry, architect, Lydbury North :—

H. & P. Lewis £285 0	
H. Evans, Montgomery* 270 10	

BRIDLINGTON.—For the erection of stable and premises, Wycliffe-lane. Mr. J. Earnshaw, architect, Wellington-road, Bridlington :—

E. Corner £305 10	E. Wilson, Bridlington* £280 3
W. Barnes 299 19	

CHELMSFORD.—For nine cottages, for the Chelmsford Star Co-operative Society. Mr. R. Mawhood, architect :—

Lummis & Son £2,358	W. Samms £2,110
F. Wright..... 2,175	J. Gowers* 2,070
F. Johnson 2,135	

[All of Chelmsford.]

CLACTON-ON-SEA.—For a house to be built in the Harold-road. Mr. R. Mawhood, architect, Chelmsford :—

Shillitoe £2,500	E. West*, Clacton and Chelmsford £1,993
Linzell 2,287	

DUFFTOWN (N.B.).—For the erection of schools, for the Mortlach School Board. Messrs. Sutherland & Jamieson, architects, Elgin :—

Masonry.—Alexander & Sons, Dufftown ....
Carpentry.—F. G. Archibald, Huntly
Slating.—John Wilson, Dufftown .... } £4,100
Plastering.—James Brodie, Elgin ....
Plumbing.—John Wilson, Huntly ....
Painting.—Garden & Ward, Dufftown

[*See also next page.*

HENDON.—For erecting a factory at Hendon, for Messrs. A. Garstin & Co. Mr. Richard H. Hill, architect, Ingram House, 165, Fenchurch-street, E.C. :—

Leslie & Co.	£5,585	O. Craske	£4,880
Dove Bros.	5,455	C. Miskin & Sons	4,850
Grover & Sons	5,037	J. B. Nightingale	4,725
Wm. Shurmer	4,975	S. J. Scott	4,712
Wm. King	4,950	J. Outhwaite & Son	4,711
T. Turner, Ltd.	4,917	J. & G. Waterman*	4,544

HERTFORD.—For building new wing to Herts Reformatory School, for the committee. Mr. R. G. Hammond, architect, 16, Essex-street, Strand :—

F. Hitch	£1,568	T. Hunt	£1,358
Norris & Son	1,405	Ginn & Son*	1,185
Ekins & Co.	1,390		

LEADEN RODING (Essex). — For additions to a farmhouse. Mr. R. Mawhood, architect, Chelmsford :—

H. Barlow	£420	E. Hockley, Hatfield Heath*	£370
W. Drewery	460		

LONDON.—For alterations and repairs to "The Grotto Home," 55, Paddington-street, for Committee of Refuge and Reformatory Union. Mr. R. G. Hammond, architect :—

J. Sanders	£600	G. Wade*	£593

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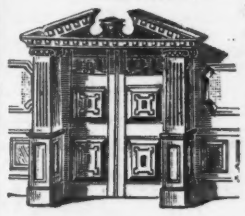

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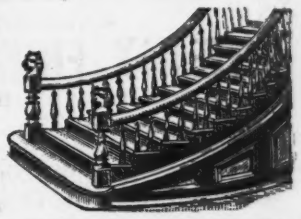

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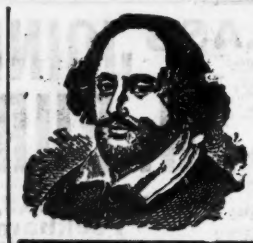
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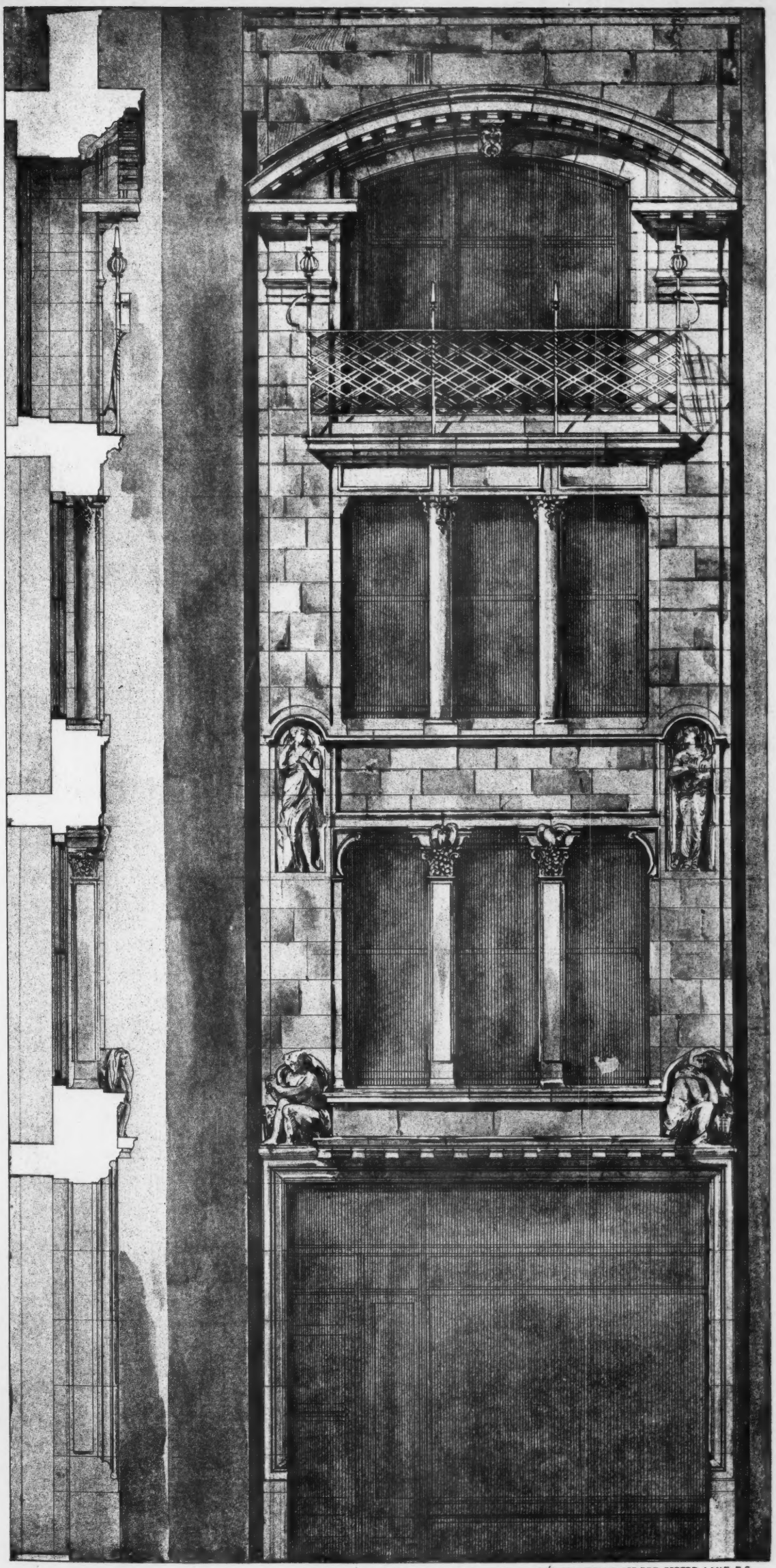
CLERK OF WORKS.
The Fulham Vestry invite APPLICATIONS for the APPOINTMENT of CLERK of WORKS to superintend the building of baths and washhouses to be erected in Melmoth-place, Fulham. Salary, 4l. 4s. per week.
Applications to be made in candidate's own handwriting, accompanied by copies of not more than three testimonials of recent date, and marked "Clerk of Works," to be delivered to the undersigned on or before 13th of JUNE, 1900.
Candidates must be between the ages of 35 and 50, and have had previous experience as Clerk of Works on a building costing not less than 5,000l.
Canvassing, either directly or indirectly, is strictly prohibited, and will disqualify any candidate.
W. J. H. DENSELOW, Clerk to the Vestry.
Town Hall,
Walham Green, S.W.

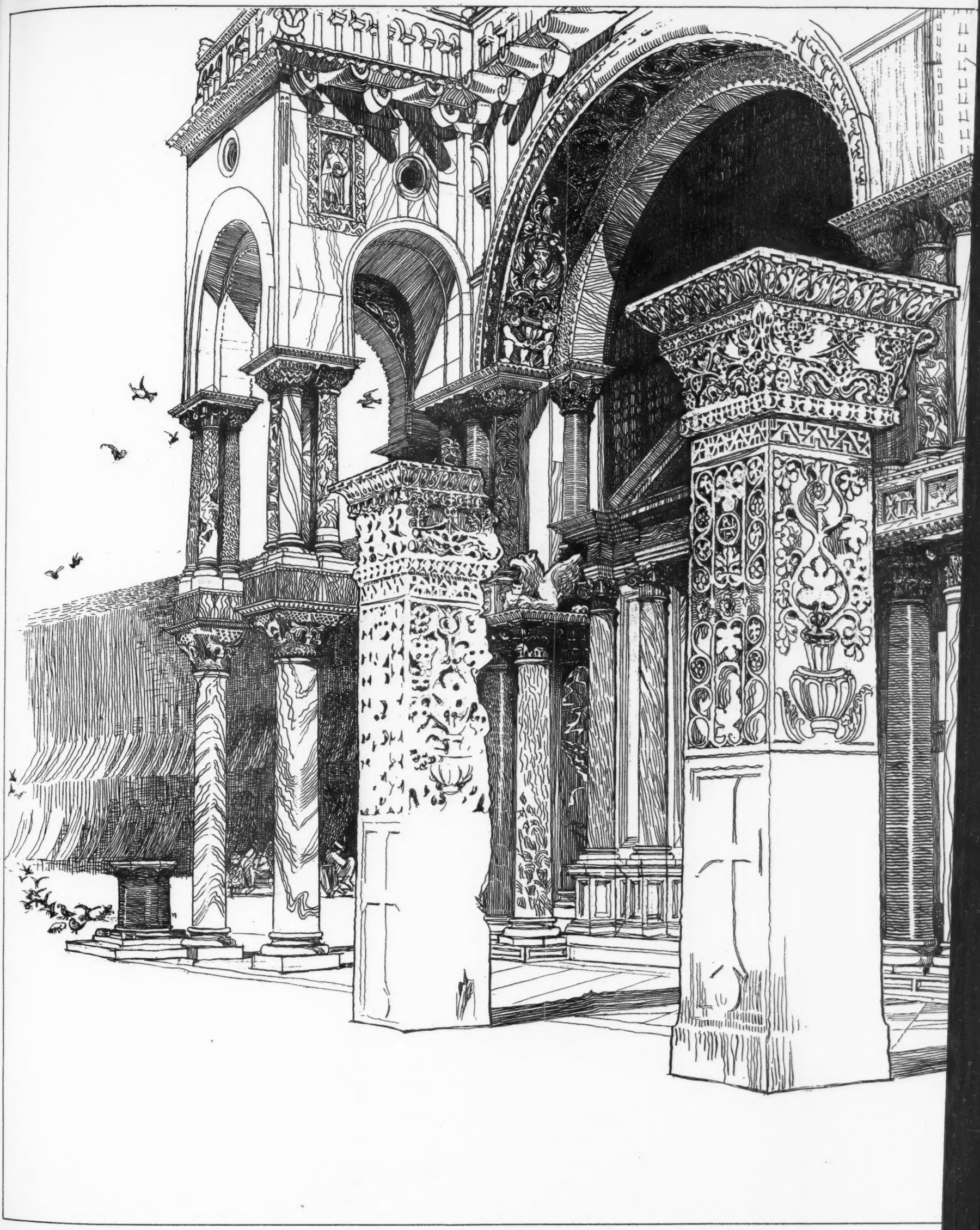
INK-PHOTO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

No. 49 HARLEY STREET, W.—Mr. F. M. Elgood, A.R.I.B.A., Architect.

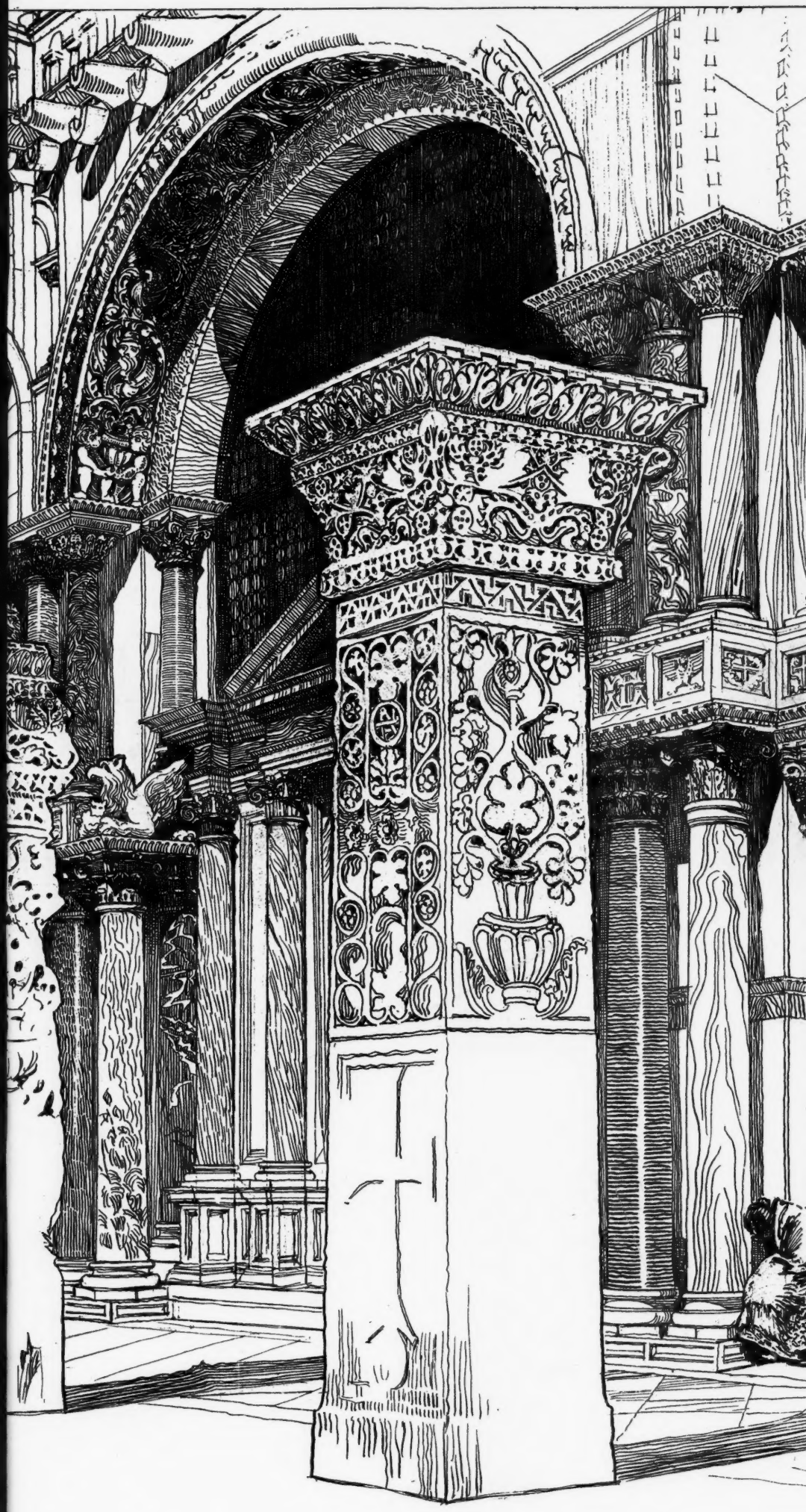


INK-PHOTO. SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET FETTER LANE E.C.

No. 31 OLD BOND STREET.—Mr. Beresford Pite, F.R.I.B.A., Architect.



PART OF ST. MARK'S, VENICE: FROM THE PORTA DELLA CARTA.—DRA



PART OF ST. MARK'S, VENICE: FROM THE PORTA DELLA CARTA.—Drawn by Mr. W.

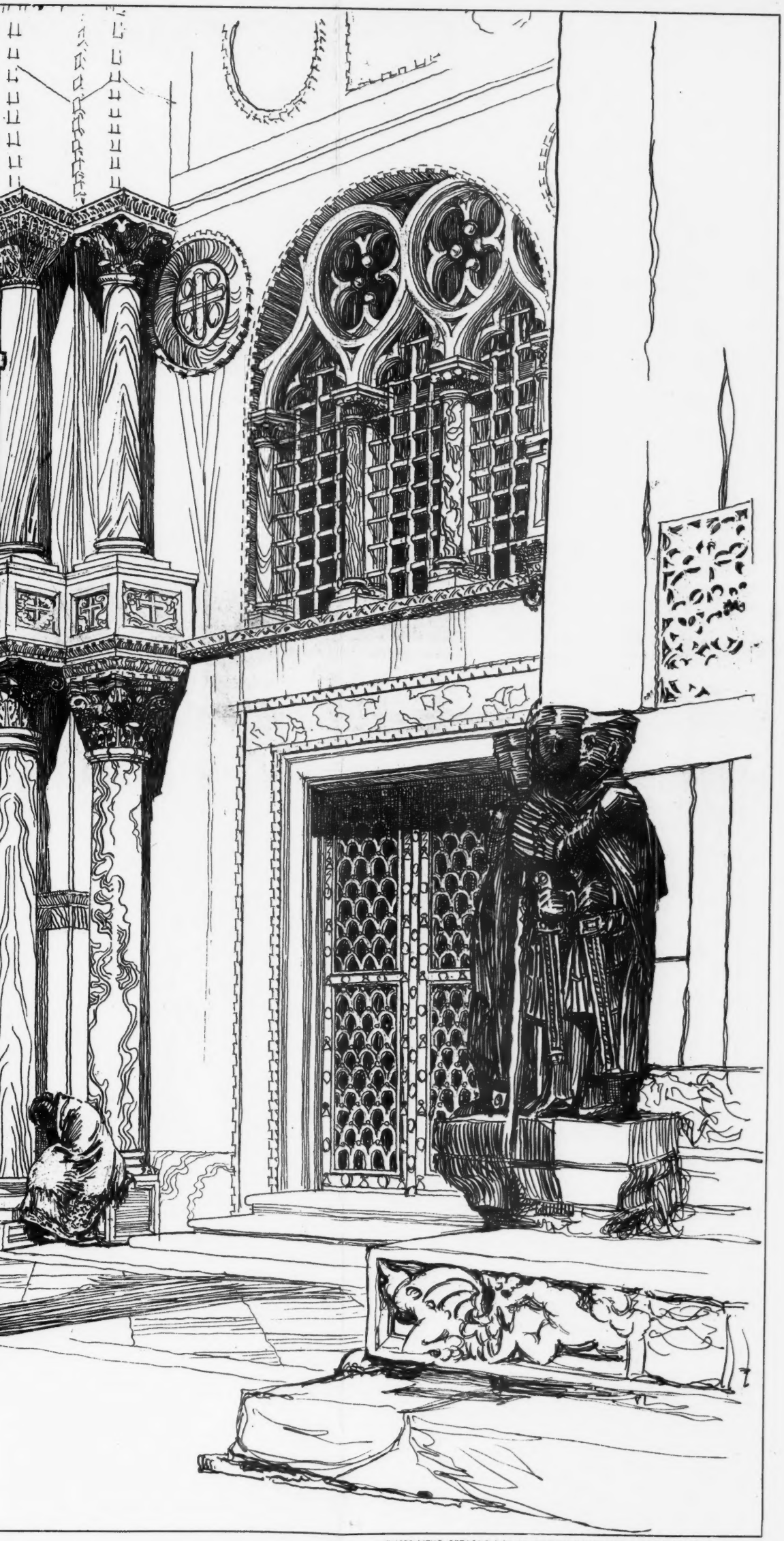
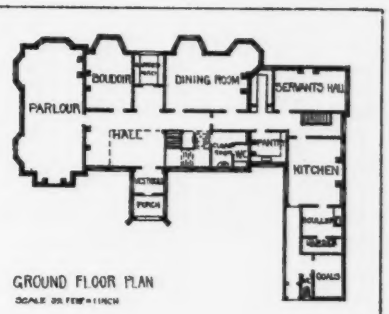


PHOTO-LITHO SPRAGUE & Co. L.TD 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

BY MR. W. CURTIS GREEN.

House at Leamington

R.A. Briggs F.R.I.B.A. Architect



GROUND FLOOR PLAN

SCALE 8ft PER INCH

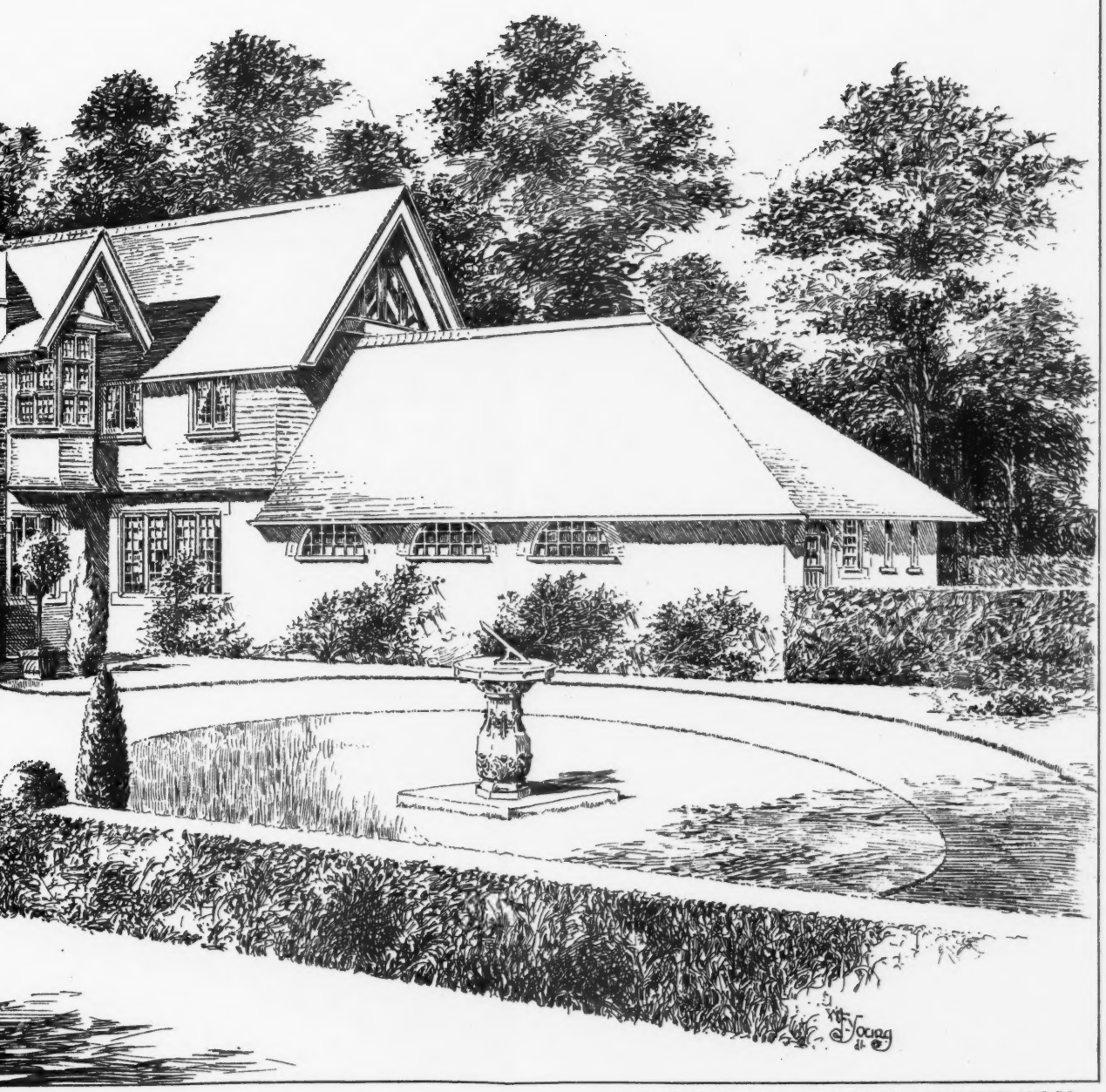
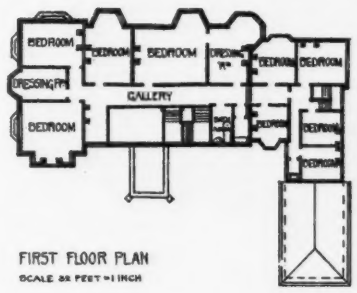


PHOTO-LITHO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

House at Leamington

R.A.Briggs F.R.I.B.A. Architect



FIRST FLOOR PLAN

SCALE 32 FEET = 1 INCH

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